

**Fly-In / Fly-Out Working Arrangements:
Employee Perceptions of Work and Personal Impacts**

Elizabeth Ruth Brook

Bachelor of Psychology, Master of Applied Psychology in Organisational Psychology

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FIFO: WORK AND PERSONAL IMPACTS

I declare that this thesis is my own account of my research and contains as its main content work which has not previously been submitted for a degree at any tertiary education institution.

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Elizabeth Ruth Brook

Abstract

During the resources boom in Western Australia, the remoteness and nature of work contracts led to an increase in the use of fly-in fly-out (FIFO) working arrangements. The associated compressed work periods, alternating patterns of residence, and the harsh worksite living conditions were compensated for by high wages. The combination of these factors led to controversy around whether employees were committed to their employers (Walford, 2012), if their working arrangements conflicted with family arrangements, and the impact on their mental health (Education and Health Standing Committee, 2015). This thesis explored the impact of FIFO working arrangements on workers in each of these areas using correlations and path analyses. The resources boom (circa 2012) provided the opportunity to survey FIFO workers ($n = 980$; 75.6% male) across Australia by a cross-sectional online or paper survey. A convenience sample was recruited through multiple methods including social media, radio, and snowballing. Affective commitment and normative commitment were strongly predicted by perceptions of organisational support. Preference for a different roster had a small but significant impact on employees' intent to leave their jobs. Employees' preference for a different roster was positively associated with their perceptions of work-family conflict (WFC), which was also positively associated with poorer mental health outcomes. When work and personal factors were combined, preference for another roster was related to higher WFC and subsequently many organisational and individual outcomes, while high continuance commitment was related to poorer mental health outcomes. The implications of the findings of this thesis are that organisations should focus on enabling choice of roster as well as improving perceived support in order to increase affective commitment and reduce turnover intent and perceptions of WFC, which is likely to lead to better mental health outcomes for their employees.

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Glossary

Affective commitment (AC): the emotional attachment that the employee feels towards the organisation

Continuance commitment (CC): the extent to which an employee remains with their employer because of a lack of better alternatives

Co-Worker Support: perceived usefulness of support from co-workers

Employee level: an employee's position within the organisational structure, for example worker or manager levels

Even-time roster ratio: to determine how balanced days on are with days off, calculated as days off / days on

Fly-in fly-out (FIFO): where the worker commutes (usually by plane) to work and is accommodated near work for a group of shifts before returning home for a leave period

High compression: working schedule when there is a large discrepancy between the number of working days and days off, where the number of days off divided by the number of days on results in a number closer to zero than one

Mental Health: when referring to mental health in this thesis, it is referring to depression, anxiety, and stress

Normative commitment (NC): the sense of obligation that the employee feels with regards to staying with their organisation

Organisational commitment (OC): an employee's commitment, or bond, to their employing organisation

Perceived organisational support (POS): the extent to which employees feel that they are valued and appreciated by their employing organisation

Perceived Supervisor Support (PSS): the extent to which an employee feels that their supervisor cares, helps, values, and invests in them

Relationship quality (RQ): perceived quality of the worker's personal relationship

Swing: a group of shifts when working away from home

Time in FIFO: years an employee has worked a FIFO working arrangement

Turnover intent: a worker's intent to resign or not retain their employment with their employer

Work-family conflict (WFC): a conflict between work and home roles

Fly-In / Fly-Out Working Arrangements: Employee Perceptions of Work and Personal Impacts

Working arrangements across multiple industries have varied greatly over the years and can present challenges for the workers and organisations (Whaples, 2001). Over time, distances between home and work have been extended due to the demand for resources leading to a need for workers in remote locations (Künn-Nelen, 2016; Lyons & Chatterjee, 2008). This resulted in an escalation in the use of fly-in fly-out (FIFO) working arrangements, where workers alternate between residing at home and at work based on rosters, to an estimated 60,000 workers in Western Australia alone (Education and Health Standing Committee, 2015). The increasing use of FIFO led researchers to query the link with an increase in unexplained turnover (Beach, Brereton, & Cliff, 2003) as well as a rise in the number of suicide attempts (Education and Health Standing Committee, 2015).

There is not one overall theoretical framework in existence for this area of research. The relevant theoretical frameworks that sit within the models outlined in this thesis are all outlined where relevant, including: Becker's side-bet theory, organisational support theory, expectancy theory, organisational commitment theory, conflict theory, Conservation of Resources theory, cognitive theory, hopelessness theory, spillover theory, interpersonal-psychological theory, self-determination theory, and Karasek's job demand/control theory. In determining the contribution this thesis makes to the field, it first establishes how different working arrangements impact differently on work and personal lives, and that looking at these theories through the lens of a unique type of working arrangement such as FIFO is important to understand the nuances and relationships in context.

This thesis will initially establish the importance placed on working arrangements historically, as well as a rising awareness of the impact they have on individuals and

organisations, followed by an explanation of how FIFO has developed over time as a specific type of working arrangement. Then existing theory is drawn on to understand how FIFO working arrangements relate to employees' perceptions of their organisation and turnover intent as well as the personal impacts involved with FIFO. This thesis contributes to the literature as the first large-scale research project to combine these variables to explore how these inter-relate with FIFO working arrangements in a large sample.

Historical Working Arrangements

The impact of work schedules is not a recent issue having been debated throughout the last century (Whittelsey & Hadley, 1901). Historically, the trend worldwide has been a decrease in the average number of hours worked, perhaps not accounting for nuances in working arrangements and casualisation (Whaples, 2001). As will be outlined below, over time we have learnt that business and personal outcomes are not simply linked to time at work; rather, there is value in better understanding workers' needs (Whittelsey & Hadley, 1901).

Working more hours was once considered not only good for business, but also good for individuals. Colonial America perceived hard work as positive and idleness as evil, so by 1670, Massachusetts enacted legislation requiring a minimum of 10-hours work per day (Rodgers, 1979). Similarly, Virginia adopted the Statute of Artificers which was an English law that was designed to banish idleness (Atiyah & Atiyah, 1979) in which men had to be productive from sunrise to sunset. In the 1800s, hours of 60-70 hours per week were documented (Whaples, 2001). Some work was seasonal; however, for many people work continued throughout the year. Long hours and hard work were the norm (Whaples, 2001).

The 1800s saw a gradual shift as the beginnings of work-family conflict (WFC), or a conflict between work and home roles (Coser & Rokoff, 1971; Greenhaus & Beutell, 1985),

began to be discussed and resistance grew against long working hours (Lebowitz, 2015). By the beginning of the 1800s, England had adopted a 10-hour working day (The Federation of International Employers, n.d.). In the United States of America (US), government working hours for employees were reduced to 8 hours per day in 1868. In Massachusetts, the 10-hour law of 1874 restricted the hours women and children could work because of overwork, ill health, and a lack of a social life which are all indicative of WFC (Whittelsey & Hadley, 1901). Further legislated limitations spread across the globe and eventuated in the International Labor Organisation (ILO) determining in 1919 that the standard should be an 8-hour day, capped at 48 hours per week (The Federation of International Employers, n.d.).

It is evident that there was already an awareness that certain working arrangements were harmful to health. Goldmark and Brandeis (1912)'s book "Fatigue and Efficiency" presented evidence that longer working hours could be counterproductive for businesses as well. Data from workers in World War I regarding hours worked and output produced also added strength to this argument (Whaples, 2001).

In the US during the Great Depression, businesses cut working hours to save jobs, and there were repeated attempts to limit the length of shifts (Whaples, 1990). America legislated a 40-hour maximum work week for many employees in 1938. In Australia, work time had also decreased from around 57 hours per week in 1870 to around a 40-hour week in 1950. In 2000, France limited the working week to 35-hours (The Federation of International Employers, n.d.). Figure 1 shows the decrease in average hours worked across numerous western countries. This, however, represents a reduction in the average hours worked. As mentioned earlier, some work was seasonal, and this average does not consider the unique nuances of compressed working periods (Costa, 2000) which is an increasingly common type of working arrangement (Education and Health Standing Committee, 2015). An additional

complication caused by urban expansion and wanting a choice of living location means that the modern workday has been extended for many because of increasing distances commuting to work (Künn-Nelen, 2016; Lyons & Chatterjee, 2008).

Interestingly, there is a distinct gap in our understanding of how changes in the working arrangements described above have influenced psychological wellbeing outcomes over that time period. Global wellbeing data since the early 1800s show an upwards trend in education, height, life expectancy, remuneration, and positive environmental and equality indicators (OECD, 2014). These data fail to capture psychological wellbeing, leading to a gap in our understanding of the psychological impact that different working arrangements have on our perception of work and personal life. More recently, changes to commuting arrangements have led to researchers examining the impact of such arrangements on wellbeing (e.g. Hilbrecht, Smale, & Mock, 2014; Urhonen, Lie, & Aamodt, 2016; Zhu, Li, Chen, Liu, & Zeng, 2017).

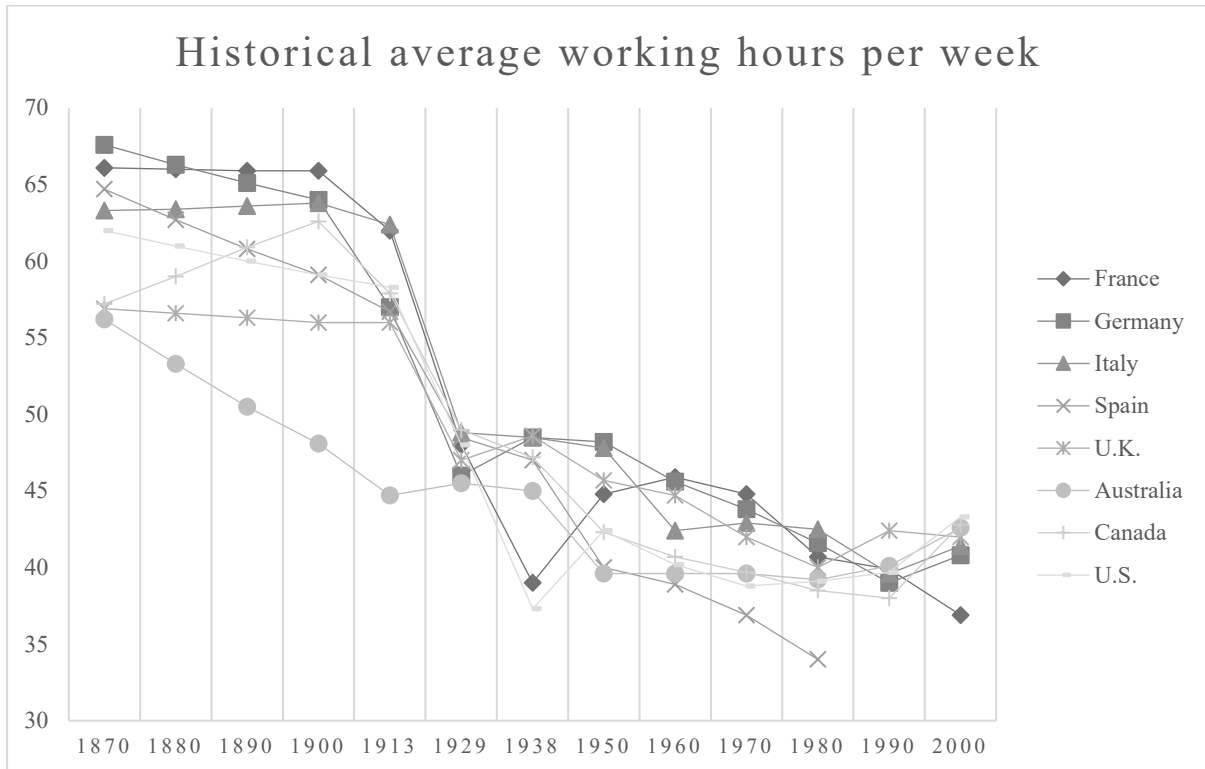


Figure 1. Weekly working hours for various countries over time (created with data from Huberman & Minns, 2007).

Commuting to Work

Changes in urban population and employment decentralisation have led to longer working days because employees live further from their workplace (Axisa, Scott, & Newbold, 2012). Research has found that this tends to mostly impact men, as females tend to commute shorter distances to work (Clark, Huang, & Withers, 2003; Crane, 2007; Crane & Takahashi, 2009) with employment status, marital status, and presence of children among the factors influencing “choice” of commute length (Axisa et al., 2012; Cassel, Macuchova, Rudholm, & Rydell, 2013; Reuschke, 2010). On average, 30-40 minutes was deemed an acceptable commute time although more educated people, public transport users, females, and older workers all had a higher tolerance for longer commute times (He, Zhao, & He, 2016). It is evident that some people choose working arrangements based on their individual

needs and tolerance for a commute, but perhaps do not consider the possible negative outcomes of longer commutes (Hilbrecht et al., 2014; Urhonen et al., 2016; Zhu et al., 2017).

Longer commuting has been associated with negative personal wellbeing outcomes, such as a decline in physical and mental health as well as life satisfaction (Hilbrecht et al., 2014; Urhonen et al., 2016; Zhu et al., 2017). Loss of sleep is also evident as the time remaining for sleep is limited by the extra time required to travel (Petrov et al., 2018; Pfeifer, 2018). Stress levels have been found to increase as the length of commute increases (Gottholmseder, Nowotny, Pruckner, & Theurl, 2009) particularly in females (Lachmann, Sariyska, Kannen, Stavrou, & Montag, 2017); however, one longitudinal study found this stress was short-lived (Friman, Olsson, Ståhl, Ettema, & Gärling, 2017). Time for leisure (Hilbrecht et al., 2014; Urhonen et al., 2016), an indication of WFC, has also been reported as a concern with more time taken in commutes. Additionally, long commutes have been associated with an increased risk of relationship breakdown, particularly for those with a temporary perspective of their longer commute (Sandow, 2014), indicating expectations and a lack of control over the commute may have an impact over personal outcomes.

Interestingly, Lachmann et al. (2017) found that for some business commuters, there was a higher satisfaction with their commuting working arrangements. Some commuters preferred longer commutes because it allowed time alone, enjoying scenery, and listening to music (Jain & Lyons, 2008). In support of this, research has shown that people prefer to commute further rather than move house, preferring the option to live where they want to (Vincent-Geslin & Ravalet, 2016). This appears to be a strategic choice for many (Sandow & Westin, 2010).

Vincent-Geslin and Ravalet (2016) argue that it is time, not distance, that should be considered in the literature around long-distance commuting. This is because of the

differences in speed to travel on different road systems and different modes of transport. Isolated or remote workplaces are more suited to less frequent commuting to work because of the longer distances between home and work or if infrastructure for more expedient transportation is lacking (Gramling & Brabant, 1986). In such cases as these, provision of accommodation at the workplace is more commonplace.

Commutes with Accommodation

Commuting patterns have become increasingly varied (Pisarski, 2007), particularly as the operational requirements of some industries require staff to work in remote locations (Gramling & Brabant, 1986). Relocating workers to remote locations is frequently not possible, feasible, or viable for the organisation (Gramling & Brabant, 1986). The boomtown model outlines a generic overview of the impact of natural resource finds on local communities (Gramling & Brabant, 1986). It also helps to explain why the infrastructure of these remote towns cannot cope with surges in demands placed on medical facilities, schools, law enforcement, and housing needs. The impact on increases in salary for part of the local workforce changes the local economy, where those who are not working for the resource companies find it difficult to compete (House of Representatives Standing Committee on Regional Australia, 2013). The impact on local communities has been criticised as detrimental, particularly for those locations where the majority of workers are only required for an initial construction phase (Gramling & Brabant, 1986; Saxinger, 2016). This is especially relevant in Australia and America which have scattered ghost towns reflecting the historical challenges associated with the boom or bust economy (Graves, Weiler, & Tynon, 2009; Marais et al., 2018).

In order to reduce the strain on mining towns, alternate working arrangements have become the norm (Saxinger, 2016) whereby the worker commutes to work and is

accommodated near work for a group of shifts before returning home for a leave period (Gramling & Brabant, 1986). This type of working arrangement has been known by many different terms in the literature and has been researched internationally using a variety of names including shift-work (Gramling & Brabant, 1986), transient workers, mobile workforce (Donatelli, Murray, Lionais, & Nicholson, 2017; Storey & Hall, 2018), FIFO, drive-in drive-out (DIDO), bus-in bus-out (BIBO), helo-in helo-out (helicopter transport; HIHO), ship-in ship-out (SISO; e.g. Meredith, Rush, & Robinson, 2014), super-commuting, long distance commuting (LDC; e.g. Vincent-Geslin & Ravalet, 2016), weekly boarding (Jacks, 2016), periodic transitioning (Kazakos, Howard, & Vetere, 2013), and military activities or deployments (Kaczmarek, Sibbel, & Cowie, 2003). The definitions do vary, however, with most LDCs commuting daily; shift-workers sometimes sleeping away, sometimes returning home; and others remaining at work with accommodation provided for working periods. For the purpose of this thesis, FIFO and DIDO are conceptualised as a type of LDC. While overlap may exist with other types of working arrangements, FIFO is conceptualised as a unique type of working arrangement.

Long Distance Commuting

LDC is used broadly throughout the literature and largely encompasses all the commuting-related working arrangements mentioned previously. Perceptions of long distances are all relative to urban sprawl and vary across the world (O'Kelly & Niedzielski, 2009; Vincent-Geslin & Ravalet, 2016). Some studies consider longer commutes to be over 1-hour total travel per day and others refer to distances (e.g. Axisa et al., 2012; Lorenz, 2018). Vincent-Geslin and Ravalet (2016) define mega-commuters, super-commuters, or extreme commuters as those who travel more than 2 hours a day to work at least three times a week, but not those who have one-off or random trips. This can also include people who stay

in accommodation for the working week and return home at weekends (Green & Canny, 2003). Travel and accommodation are generally not provided by the employer; however, research suggests that it can be built into remuneration costs (Lorenz, 2018).

While a type of LDC working arrangement, military deployments have different work-related factors influencing attitudes towards work and personal impacts, especially around mental illness outcomes and the nature of commitment required (Kaczmarek et al., 2003). Therefore, while some relevant findings will be incorporated into this literature review, the differences in work factors limit the generalisability of the military research to FIFO working arrangements.

FIFO, DIDO, BIBO, HIHO, SISO, and Boarding

These terms all refer to an arrangement where workers travel to work, sleep at or near their workplace, and then travel home again for non-work periods. They include travel to the site camp where accommodation, meals, recreation, and medical facilities are generally provided by the employer (Storey, 2016). The differences in most of the titles indicate the mode of transport.

Storey (2016) highlights the need for more encompassing terminology, as neither LDC nor FIFO describe the complexity of the working arrangement incorporating the extended working days of 12-hour shifts, the commute, and the camp. Whilst this is correct, to be consistent with the Australian nomenclature, this thesis will hereafter refer to these working arrangements as FIFO. This encompasses workers who commute a long distance to work, either by driving or flying, and who have accommodation provided for them by their employer. Workers who return to their home to sleep between shifts will be referred to as residential workers.

For employees who are provided accommodation at work, the group of shifts is sometimes referred to as a swing (Funston, 2012). For some, this is a regular and predictable pattern, but for others it can be an irregular pattern. With these types of working arrangements, roster patterns are dictated by the employer and are considerate of costs associated with transport to and from the worksite (Aroca & Atienza, 2011). The optimal length of the swings has been a contentious topic of debate for many years, with many industries preferring a longer work period (Rolfe, 2013).

Different industries often require different rosters because of the nature of the work, industry pressures, or the logistics and safety associated with being able to get back home. Military employees and academics who FIFO can be away for up to seven months at a time (Kazakos et al., 2013), and offshore workers generally work longer swings because of the safety risks of helicopter flights as well as costs associated with the travel (Brown, Susomrith, Sitlington, & Scott, 2014; Vinnem, 2013). Conversely, other work can vary from six weeks away down to five days away. It is important to therefore remain cognisant of these factors when looking at the worker's perspective.

A Unique Working Arrangement Brings Challenges

In Australia, FIFO work became a topic of interest because the economic boom over the last decade meant that there was a sudden increase in the number of, and demand for, FIFO workers (Haslam-McKenzie & Hoath, 2014). Although there was no official census, many put the number of FIFO workers in Western Australia alone in 2015 at around 60,000 (Education and Health Standing Committee, 2015). Employees who otherwise wouldn't have worked FIFO transitioned into this different working arrangement, and some did not cope with the challenges associated with it (Pickles, 2015).

As a result of an increase in the number of reported suicides in the FIFO worker community a WA state government inquiry was launched into FIFO working arrangements and mental health outcomes. One implication arising from the Education and Health Standing Committee (2015) was that more evenly timed rosters were associated with better mental health outcomes, and high compression rosters resulted in worse mental health outcomes (Deceglie, 2015). A “high compression” working schedule is when there is a large discrepancy between the number of working days and days off (Clifford, 2009), where the number of days off divided by the number of days on results in a number closer to zero than one. For example, a schedule with one week on and one week off would be considered even ($1:1=1$), while one week on a two weeks off would be very low ($1:2=0.5$) and two weeks on, to one week off ($2:1=2$) would be considered high.

Even-time rostering might allow more recreation time (Costa, 2000) potentially decreasing perceptions of WFC which, as mentioned previously, is known to increase with long commutes. The potential dissatisfaction with FIFO working arrangements could potentially also influence organisational commitment and turnover intent and actual turnover, which reportedly costs industry AUD2.8 million a year (Beach et al., 2003). The research in this area to date has explored a few variables in isolation and is largely based on small sample sizes much of which is qualitative (Education and Health Standing Committee, 2015). No published research has combined these variables into one model to determine how these inter-relate with FIFO working arrangements.

There is a tendency to view workers in the context of production rather than from a social and human perspective (Saxinger, 2016). However, workers’ perceptions about these types of employment arrangements are more complex because of their social and emotional needs (Saxinger, 2016). The current research is concerned with the impact of FIFO on two

main areas of workers' lives: their work and personal lives. It is an exploratory study of the nuances of the FIFO working arrangement on; workers' perceptions about their job (model 1); the interface between work and home, and the association with mental health outcomes (model 2); and in combining models 1 and 2, model 3 considers work and personal impacts (model 3).

Model 1 – The Impact on Work with FIFO Working Arrangements

This section provides the rationale for a model exploring the impact of FIFO working arrangements on employees' commitment to the organisation and their turnover intent.

Literature on the costs of commuting has indicated that workers value their time and will seek jobs that compensate them for commuting (Van Ommeren & Fosgerau, 2008). Compensation for length of shift, as well as time of shift (e.g. nightshift), are generally expected and are in many employment awards (Bosworth, 1980; Saxinger, 2016; Van Ommeren & Fosgerau, 2008). Although their sample only contained residential workers, Lorenz (2018) found that people were compensated for longer commuting times by financially rewarding jobs and would only commute longer distances if they were compensated for it. Saxinger (2016) proposed that people knowingly decide to tolerate longer commuting if the benefits compensate them adequately. Ross and Zenou (2008) found that employees were more likely to shirk work if they had longer commutes, and especially if they weren't financially compensated for the commuting time.

To compensate for mobilising to site for an extended period of time, and the often harsh working conditions, FIFO employees are paid more than an equivalent residential position (House of Representatives Standing Committee on Regional Australia, 2013; Paredes, Soto, & Fleming, 2018). While some admit only staying in FIFO because of the remuneration (Gardner, Alfrey, Vandelanotte, & Rebar, 2018), there may be a broader assumption that all FIFO workers are only staying in a FIFO working arrangement because of the increased remuneration and therefore may not feel committed to their organisation (Pryce, Welters, Lynch, Murphy, & Blackman, 2013; Walford, 2012). However, Gutiérrez-i-Puigarnau and van Ommeren (2010) found that commuting time did not influence workers' employment decisions and research suggests that other factors beyond remuneration

influence the workers' choice for a job involving a longer commute (Burdett & Mortensen, 1998). Furthermore, levels of remuneration have only been shown to be a weak predictor of turnover intent in the literature with employees' connectedness to their organisation being more relevant (Allen, Bryant, & Vardaman, 2010).

The following section provides the rationale for a model exploring the impact of FIFO working arrangements on employees' commitment to the organisation and their turnover intent.

Voluntary Turnover

Voluntary FIFO turnover has been reported as a costly problem to organisations and the economy, with estimates of AUD2.3 million reported in costs resulting from productivity losses and associated recruitment and training for a single site (Beach et al., 2003; Brown et al., 2014). Within the same time period as this thesis, two studies examined rates of turnover intent in FIFO workers; one finding a 23% per annum rate for a range of industries, which is in line with non-FIFO turnover rates (Blackman et al., 2014; Welters, Lynch, Pryce, Blackman, & Murphy, 2013), and the other reported a rate of 35% per annum for mining which reflects a considerably higher cost to industry (Brown et al., 2014). Because FIFO workers don't relocate, and retain their homes and social networks, they are able to change jobs more easily as their potential employers cover a greater geographical range (Gramling, 1989).

Turnover intent is one of the strongest predictors of actual turnover (Allen et al., 2010). Literature on an employee's intent to leave their job shows that commitment to the organisation is a key antecedent and research shows that higher organisational commitment (OC) significantly decreases turnover (Park, Christie, & Sype, 2014). We would expect the same relationship between OC and turnover in a FIFO sample.

During the resources boom in Western Australia, smaller resource companies found it difficult to attract suitably qualified workers for a reasonable remuneration and increased rewards. Given this, it is not surprising that the remuneration was reportedly the uppermost advantage of working FIFO (Blackman et al., 2014; Gardner et al., 2018; Welters et al., 2013).

A desire for increased remuneration levels was identified as an antecedent to turnover in FIFO workers (Beach et al., 2003), and organisations sought to reduce turnover by increasing remuneration (AWPA, 2012). This, somewhat ironically, resulted in a pattern of ever-increasing wages as companies battled with attracting and retaining workers.

Research suggests that while some FIFO workers squandered their remuneration leading to workers feeling trapped, and reportedly not being able to resign unless offered more money (Hoath & Haslam McKenzie, 2013; Sibbel, 2010), other workers invested or saved a portion of their income (Hoath & Haslam McKenzie, 2013) enabling them make decisions regarding turnover based on factors other than remuneration. However, contrary to this, other research found that despite being offered increasingly attractive remunerative packages, turnover rates were notably high (Beach et al., 2003; Saxinger, 2016). This suggests that other factors influence FIFO workers' commitment to their organisations as indicated in a meta-analysis outlining various antecedents such as management support and FIFO working arrangements (Beach et al., 2003). That research found that the most significant consequence, or outcome, from OC was the intention to leave.

Commitment

Historically, definitions and understandings of OC have varied greatly. This thesis adheres to the definition proposed by Mathieu and Zajac (1990) which is an employee's commitment, or bond, to their employing organisation. Over the past 40 years, researchers

have proposed many correlates of OC in an attempt to understand what makes an employee more committed (Mathieu & Zajac, 1990). Attempts to explain the differing foci of OC within an individual have also been made, with many researchers focusing on attitudinal OC. This reflects an individual's belief in their organisation's values, as well as exhibiting organisational citizenship behaviours, with no intention to leave (Mowday, Porter, & Steers, 1982).

Another model widely accepted in the literature conceptualises the employees' commitment to the organisation they work for into three components (Meyer & Allen, 1991). The first is normative commitment (NC) which is the sense of obligation that the employee feel with regards to staying with their organisation. The second, affective commitment (AC), is the emotional attachment that the employee feels towards the organisation. The third component is continuance commitment (CC) which reflects the extent to which an employee remains with their employer because of a lack of better alternatives. Even though all elements of OC have been found to predict turnover, the strongest predictor of turnover intent is AC (Jaros, 1997).

Research has also found strong positive relationships between AC and perceived organisational support (POS) (Rhoades & Eisenberger, 2002). Conversely, negative relationships have been found between perceived support and CC.

Even though all three types of OC have been found to correlate negatively with turnover intention, only AC and NC had a positive relationship with positive work behaviours such as positive attendance, increased job performance, and more organisational citizenship behaviours (Meyer, Stanley, Herscovitch, & Topolnytsky, 2002). Conversely, CC was found to be seemingly dependent from AC and NC. It does, however, follow that if you feel

attached to, or feel an obligation towards, your employer that this would form part of your decision-making process when weighing up whether or not there is a “better” job elsewhere.

Beach et al. (2003) suggest that because of the transient workforce for FIFO in the mining industry, it is difficult to build organisational commitment. Walford (2012), however, found that mixed-industry FIFO workforces were able to build affective commitment, reducing turnover.

OC research suggests that there are factors other than remuneration that impacts on an employee’s commitment to the organisation and their intent to leave their job. A mixed-industry survey indicated that just over three quarters of FIFO workers found remuneration, job security, and rosters to be important retention factors (Watt & Ashby, 2013). Furthermore, McLaughlin (2017) found that FIFO workers’ OC was influenced by physical distance while those who spent more time away from work felt more isolated, had lower OC, and had a higher turnover intent. This would suggest that the more days off built into a swing would negatively impact an employee’s OC.

However, the relationships between these constructs is not conclusive. For example, an earlier meta-analysis of organisational commitment research (Mathieu & Zajac, 1990) concluded that remuneration is a correlate of OC, rather than an antecedent, therefore challenging the assumption that FIFO workers are only committed because of their higher remuneration levels.

While it may seem logical that FIFO workers would seek residential work if FIFO working arrangements didn’t suit them, many reported being trapped by the “golden handcuffs” (Vojnovic, Jacobs, Brook, Ashton, & Pule, 2014). This occurs when higher salaries are used as an inducement to join an organisation and the employee then becomes

accustomed to the additional money and spends accordingly. When not properly managed, expenses begin to match the inflated income. Investments become riskier resulting in workers needing to maintain the higher income in order to meet their financial obligations (e.g. higher mortgages, private school fees). This can then result in employees feeling trapped in FIFO working arrangements. This aligns with Becker's (1960) side-bet theory (Meyer & Allen, 1984) which posits that CC rises with the increase of investments. It may mean that workers may stay in FIFO longer and that the feeling of being trapped may negatively influence their commitment and turnover intent.

Time in FIFO

Time in FIFO is likely to be related to work outcomes. Research into expatriates has shown that time in a position is related to their adjustment and turnover intent (Zhu, Wanberg, Harrison, & Diehn, 2016). Adjustment in FIFO has also been shown to be positively related to AC (Behr, 2012). Therefore, we would expect that time in FIFO would increase affective commitment (Behr, 2012), and those who didn't adjust would leave FIFO (Zhu et al., 2016). However, it may be that FIFO working arrangements might influence this relationship differently if they felt trapped by the higher remuneration levels.

Employee Level

Along with length of time, employee level within the organisational structure has also been linked to work outcomes (Cohen, 1993). The organisational commitment literature has established that along with tenure, career stage also influences workers' commitment to their organisations (Cohen, 1993). Those who are in earlier career stages, or lower levels in the organisation, are less likely to be committed to an organisation and are more likely to express their intent to resign (Brimeyer, Perrucci, & Wadsworth, 2010; Levinson, 1978; Ornstein, Cron, & Slocum, 1989).

Perceptions of Support

Eisenberger, Stinglhamber, Vandenberghe, Sucharski, and Rhoades (2002) define workplace support as the perception that the workers' wellbeing is valued by their supervisors and the broader organisation. Others extend this to all sources, including co-worker support (Kossek, Pichler, Bodner, & Hammer, 2011). Kottke and Sharafinski (1988) found that perceived supervisor support (PSS) was distinct from perceived organisational support (POS). Perceived Supervisor Support (PSS) is the extent to which an employee feels that their supervisor cares, helps, values, and invests in them (Gordon, Adler, Day, & Sydnor, 2019). The employees who participated in Kottke and Sharafinski (1988)'s research reported a preference for supervisory support over organisational support. However, the two are inextricably linked whereby supervisors who perceived that they were supported by the organisation increased their support towards their staff (Wu, Hu, & Jiang, 2012). Therefore, it is important to consider the extent to which POS directly, and indirectly via PSS, impacts on employee commitment and turnover intent.

Perceived Organisational Support (POS)

According to organisational support theory (Eisenberger, Huntington, Hutchison, & Sowa, 1986), employees assess whether or not they feel that they are valued and appreciated by their employing organisation (Eisenberger, Armeli, Rexwinkel, Lynch, & Rhoades, 2001; Eisenberger et al., 1986) based on the extent to which they feel that their contributions are valued and the concern shown for their welfare. POS can then have a negative or positive impact depending on the extent to which the employee believes that the employer is providing support or resources without being mandated to do so (Rhoades & Eisenberger, 2002).

The expectancy theory of motivation (Vroom, 1964) would then posit that the employee would feel that their good work and loyalty would lead to the organisation valuing them. The norm of reciprocity (Gouldner, 1960) explains that if the employee feels that their organisation values them and invests in their needs, they in turn feel more loyal to that organisation (Gakovic & Tetrick, 2003). This loyalty would be evident in their OC and NC, where they feel an obligation towards the organisation (Gakovic & Tetrick, 2003).

Both PSS and POS have been shown to be negatively related to turnover intentions, with POS demonstrating a stronger relationship (Tuzun & Devrani, 2011). Perceived support has also been found to positively influence levels of OC, and particularly AC, in non-FIFO populations (Casper, Harris, Taylor-Bianco, & Wayne, 2011; Rousseau & Aubé, 2010). This thesis, therefore, investigates whether this relationship is also found in the FIFO workforce.

Although organisational commitment theory (Meyer & Allen, 1997) would predict a positive association between POS and CC, findings related to this association have been mixed with some researchers reporting non-significant results (e.g. Shore & Tetrick, 1991) and others reporting negative relationships (O'Driscoll & Randall, 1999; Rhoades & Eisenberger, 2002; Shore & Tetrick, 1991). Meta-analytical research (Rhoades & Eisenberger, 2002) concluded that there was a significant negative relationship between POS and CC, albeit the strength of this relationship was weak.

Some explanations have been proposed to explain these findings (see O'Driscoll & Randall, 1999; Shore & Tetrick, 1991). Specifically, focus is drawn to how an employee justifies staying with an organisation. When they feel supported by their organisation and consequently demonstrate high affective commitment, they do not require alternative justifications for staying beyond wanting to remain. However, when organisational support

and AC is low, employees need to deploy alternative explanations, or they may experience cognitive dissonance. In extending these arguments and drawing on employee turnover models (see Mobley, 1977; Mowday et al., 1982; Price & Mueller, 1981), when an employee does not want to stay, they would look at other employment options.

Organisations also benefit from POS as employees who feel supported by the organisation are less likely to be absent from work (Byron, 2005), are more likely to arrive at work on time (Eder & Eisenberger, 2008), are less likely to resign (Rhoades & Eisenberger, 2002), and demonstrate more organisational citizenship behaviours (Rhoades & Eisenberger, 2002) that are beyond the tasks required for their job, such as helping other people and improving things within the organisation (George & Brief, 1992).

Not surprisingly, POS also increases positive affect towards the organisation (Rhoades & Eisenberger, 2002) including job satisfaction and self efficacy (George & Brief, 1992). Consequentially, in this thesis, it is expected that there will be a strong relationship between POS and OC, particularly AC although it is worthwhile noting that a qualitative analyses of a small sample of FIFO workers found that, in general, they did not feel supported by their employers (Gardner et al., 2018).

Perceived Supervisor Support

Kossek and Distelberg (2009) noted that workplace trends involve shifting demographics, longer hours, greater shiftwork, as well as intensifying work. It has been suggested that PSS can provide some reprieve from these pressures by reducing the potential for burnout due to increased work demands, whilst also leading to a perception of personal accomplishment (Gibson, Grey, & Hastings, 2009). PSS has been shown to be instrumental in reducing turnover intent (Galletta, Portoghese, Penna, Battistelli, & Saiani, 2011) as well

as increasing performance and job satisfaction (Babin & Boles, 1996; DeConinck & Johnson, 2009; Hammer, Kossek, Anger, Bodner, & Zimmerman, 2011; Kossek & Hammer, 2008).

Employees are more likely to judge the quality of their relationship with their supervisor based on their perceived support from their supervisor (Cole, Bruch, & Vogel, 2006; Dasborough & Ashkanasy, 2002). Individuals who do not perceive support from their supervisors are more insecure, lack coping ability, and have low self-efficacy (Cole et al., 2006; Graves, Cullen, Lester, Ruderman, & Gentry, 2015).

Unsurprisingly, PSS has been positively associated with organisational commitment outcomes, specifically CC and AC (Payne & Huffman, 2005). That is, the support of the supervisor assists the worker to be emotionally attached to the organisation as well as ensuring that they see it as a strength of their current employer above other potential employers. If workers feel supported by their managers, they feel less isolated and less likely to quit (McLaughlin, 2017). While these results described above have been studied in traditional rosters it is expected to also be present in FIFO workers in this thesis given the greater time spent at work.

According to organisational support theory, these positive feelings towards their supervisor would then extend to the organisation itself (Eisenberger et al., 1986; Eisenberger et al., 2002). Employees infer POS from PSS, likely due to the close proximity of the supervisor to the employee (Eisenberger et al., 2002). Supervisors who are providing support might be perceived as the main support and as a representative of the organisation, (Kalemci Tuzun & Arzu Kalemci, 2012). Therefore, rather than POS and PSS merely being correlated, the literature indicates that PSS influences POS (Kalemci Tuzun & Arzu Kalemci, 2012).

Preference for a Different Roster

As remuneration has been shown to vary based on working hours (Huberman & Minns, 2007), some workers prefer to work longer hours in order to receive the remuneration they want and/or need (Bell & Freeman, 2001). Rosters can range from a few days away, up to months away with days or weeks off, and some workers have even-time rosters such as 4 weeks on, 4 weeks off (Storey, 2008). In construction, however, the rosters tend to be 4 weeks on, 1 week off (Pickles, 2015). A recent survey of 1,056 FIFO workers in mining found that the greatest preference was for an 8-days on, 6-days off roster (30.21%); followed by 2 weeks on, 1 week off (25.85%); and 12-days on, 9-days off (20.74%) (Mining People International, 2017). Interestingly, only 15% of employees preferred moving close to work (residential) with the majority preferring a FIFO roster. This is supported by the LDC research that shows that workers prefer to live where they want to, rather than having to live near to their work (Trouteaud, 2005). In choosing where they wish to live, factors like housing affordability (Plaut, 2006), climate, and weather were reportedly important to workers (Storey, 2016). Therefore, once they have chosen a FIFO position rather than a remote residential position, the challenge then becomes getting a swing that suits their preferences.

Rostered Days On and Off

A desire for recovery from work, such as wanting more days off, has been shown to be positively related to increased turnover intent (De Croon, Sluiter, Blonk, Broersen, & Frings-Dresen, 2004). Working schedules, and specifically the resulting days off in more even-time roster ratios, were the second highest rated advantage of working FIFO across industries (Blackman et al., 2014; Welters et al., 2013). Mixed-industry workers reported reasons such as having more time to spend with their families, as well as doing jobs around

the home (Blackman et al., 2014; Welters et al., 2013). Mining FIFO workers in another study were more dissatisfied with rosters that were not even-time, as well as longer rosters (Clifford, 2009). In both studies, not only was the amount of time at home important, but it also allowed greater quality time with their families (Houghton, 1993). Therefore, although longer periods of leave are detrimental to work factors such as OC and turnover intent, they appear to be beneficial for personal factors such as household chores and family time.

The number of days on is also related to perceptions of support. In a small sample of FIFO construction workers, perceived supervisor support levels declined 3 days into the roster (Albrecht & Anglim, 2018). Therefore, shorter working cycles could be more beneficial in this instance and has been reported as being desirable by FIFO mining participants in a small qualitative study (Misan & Rudnik, 2015). However, shorter cycles appear to be more harmful emotionally. The emotional cycle as a result of detachment and reattachment to families was found to be more intense when rosters had fewer days off because the adjustment time consumed much of the short leave period, as reported by a sample of mining FIFO wives (La Forte, 1991). Therefore, in the literature, there exists contradictory evidence for short rosters versus longer rosters.

The Proposed Models in this Thesis

Using a model derived from the literature to examine the impacts of FIFO working arrangements will enable us to explore how FIFO relates to the fundamental relationships of workplace commitment and turnover (Meyer et al., 2002). The first model seeks to understand the nature of the relationships between FIFO working arrangement factors, support, commitment, and turnover. The hypothesised relationships are outlined in Figure 2 and Figure 3 below (more detail can be found in Appendix A).

Due to the inconsistency in the literature regarding the importance of analysing days on and days off (a) versus roster compression ratio (b), these have been separated into two separate models in order to explore the impact of each of these respectively. This should enable a better understanding of which is more meaningful in terms of exploring the role of roster impact.

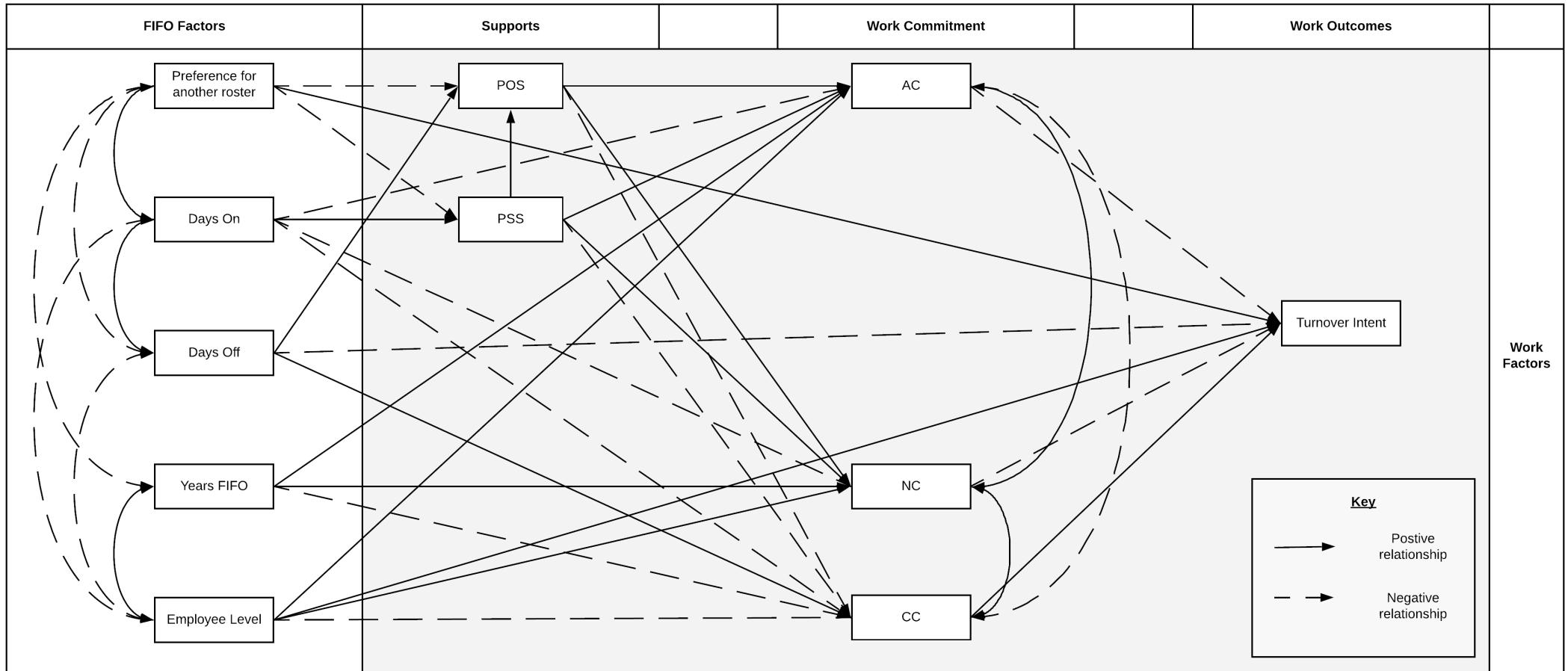


Figure 2. Proposed model 1(a) including hypothesised relationships for days on and days off separated, for FIFO working arrangements and work factors.

NOTE: PSS = Perceived Supervisor Support, POS = Perceived Organisational Support, AC = Affective Commitment, NC = Normative Commitment, CC = Continuance Commitment

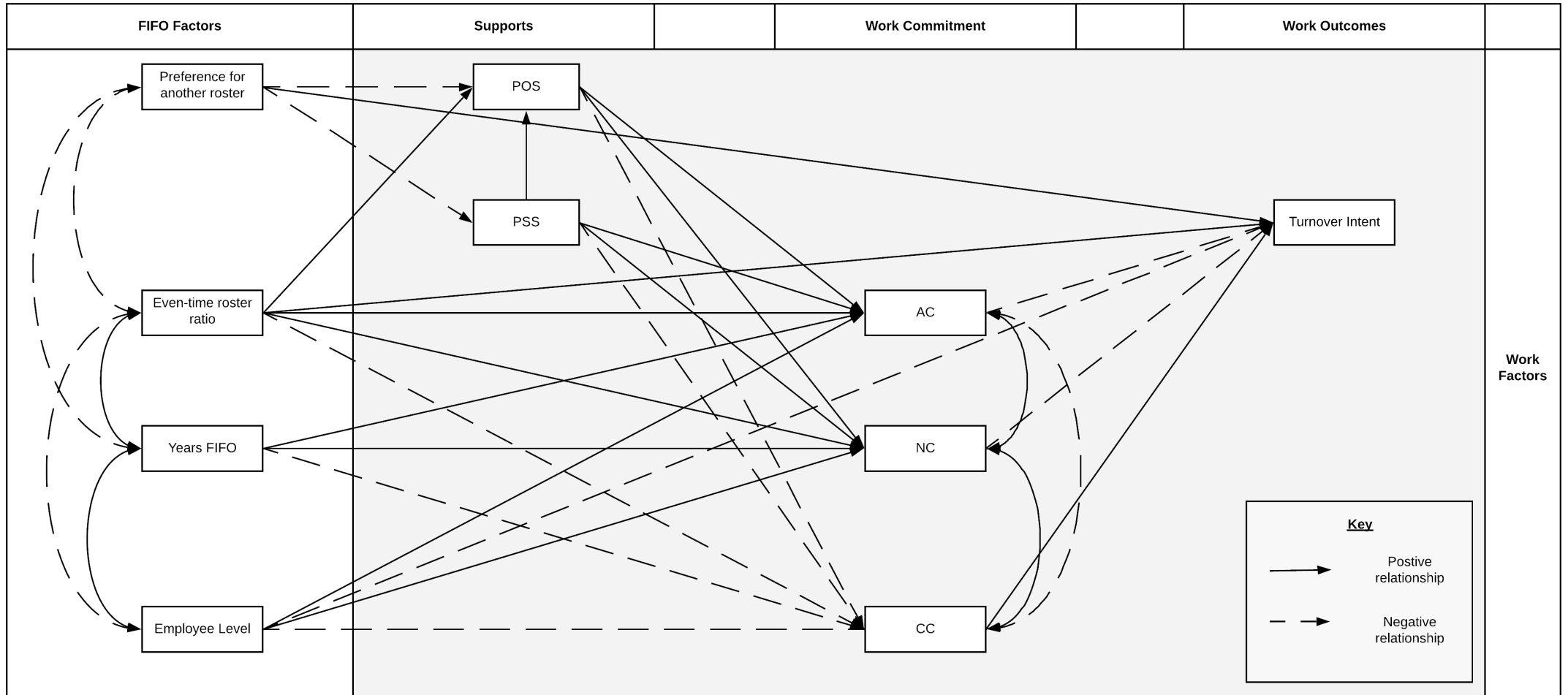


Figure 3. Proposed model 1(b) including hypothesised relationships, using roster ratio, for FIFO working arrangements and work factors.

NOTE: PSS = Perceived Supervisor Support, POS = Perceived Organisational Support, AC = Affective Commitment, NC = Normative Commitment, CC = Continuance Commitment

Model 2 – FIFO Workers’ Perceptions of how their Work Impacted on their Personal Life

The second model outlines the impacts of FIFO working arrangements on the impact on home life, as well as individual mental health. This is a topic that has attracted parliamentary inquiries in the last decade (Education and Health Standing Committee, 2015; House of Representatives Standing Committee on Regional Australia, 2013; Queensland State Parliament, 2015). As a result of nine suicides of FIFO workers in a year, a Western Australian parliamentary inquiry was launched into the impact of FIFO work practices and mental health (Education and Health Standing Committee, 2015). The inquiry found that there were at least 25 suicide-attributable deaths at mine sites (including accommodation facilities) between 2011 and 2015 and perhaps an additional 20 may have occurred away from the mine sites.

There is a long list of the potential negative effects of FIFO work on employees including exhaustion, fatigue, stress, anxiety, loneliness, homesickness, isolation, sadness, depression, suicide risk (MacBeth, Kaczmarek, & Sibbel, 2012; Peetz & Murray, 2011), health problems associated with obesity and poor diet, alcohol and other substance abuse (Lenney, 2010; Newhook et al., 2011), family dysfunction, mistrust, resentment, and relationship breakdowns (Pini & Mayes, 2012; Taylor & Simmonds, 2009).

Furthermore, FIFO work incorporates many factors that have been found to increase WFC (Hosking & Western, 2008; Jansen, Kant, Kristensen, & Nijhuis, 2003; Voydanoff, 2005b). During the inquiry (Education and Health Standing Committee, 2015), it was noted that FIFO working arrangements may also be negatively impacting on relationships and work-family balance leading to WFC and when compared to non-FIFO workers, FIFO employees report significantly greater WFC (Dittman, Henriquez, & Roxburgh, 2016). As a

result of the inquiry, a code of practice regarding FIFO working arrangements has recently been released (DMIRS, 2019). Thus, this thesis provides a timely analysis of the contribution that FIFO working arrangements play in relation to WFC and mental illness.

Work-Family Conflict

WFC describes the inability to engage in one life-role consistently because of another (Kahn, Wolfe, Quinn, Snoek, & Rosenthal, 1964). This has been studied from both directions namely: work interfering in family (e.g. Major, Klein, & Ehrhart, 2002) and family interfering in work (e.g. Lapiere, Hammer, Truxillo, & Murphy, 2012).

According to the scarcity hypothesis, we do not have endless time and energy (Goode, 1960) and our life roles can conflict with each other (e.g. Role Conflict hypothesis; Coser & Rokoff, 1971). These theories provided a foundation for research into WFC and led to further theories such as conflict theory (Greenhaus & Beutell, 1985); the belief in the incompatibility of the two life roles which led to research to determine the impact of gender roles on this conflict. Eagly (1987) suggested that role conflict should be greater for women, given their traditional family roles, while others (e.g. Duxbury & Higgins, 1991; Gutek, Searle, & Klepa, 1991; Zuo, 2004) suggest that men also experience role conflict because of their perceived priority to work rather than raise a family. Weak gender differences such as those identified in a meta-analysis by Byron (2005) suggest that it is the roles people take on that impact WFC rather than their gender per se. A recent meta-analysis by Shockley, Shen, DeNunzio, Arvan, and Knudsen (2017) confirmed men and women did not differ on reports of WFC. Regardless, research shows a negative relationship between an organisation's support of an employee's dual life roles and perceptions of WFC (Kossek et al., 2011).

The work-family fit model (Voydanoff, 2005b) emphasises the need for individuals to balance their personal resources between the demands of both work and the family. If the

resources are not available to meet the family's needs, this results in strain (Voydanoff, 2005b) and leads to WFC (Frone, Russell, & Cooper, 1997; Greenhaus & Beutell, 1985). Conflict can arise from either work interfering with family (WIF) obligations and the ability to meet family demands or family interference with work (FIW) when family obligations interfere with the ability to meet work demands (Greenhaus & Powell, 2003; Nomaguchi, 2012). Longer shifts and total number of hours at work reduce the time available to commit to family (Frone, Yardley, & Markel, 1997). For example, WFC has been found to increase for fathers whose rosters incorporated irregular work hours or weekends (Hosking & Western, 2008). As a consequence, time - or rather the lack of available time - directly impacts perceptions of WIF (Gutek et al., 1991; Parasuraman, Purohit, Godshalk, & Beutell, 1996) and WFC (Byron, 2005; Voydanoff, 2005a).

Hobfoll (1989) proposed the conservation of resources model (COR) explaining that people try to maintain their resources while attempting to acquire new ones. However, stress arises when resources are lost, such as when trying to attend to both work and home roles (Grandey & Cropanzano, 1999). This may help to explain why stress has been shown to be similar across FIFO and non-FIFO samples, except for those who were dissatisfied with their current roster (Clifford, 2009). According to this theory, longer rosters and the associated perceptions of an imbalance between available resources and work, as well as home demands, can lead to perceptions of role conflict or negative spillover (Kim, Kim, & Kim, 2017). This results in stress, which has also been shown to be strongly positively associated with WFC (Byron, 2005). In an attempt to recover resources, time and support are sought (Sonnentag, 2001).

However, there is the potential for positive spillover (e.g. Crouter, 1984; Hanson, Hammer, & Colton, 2006) when different roles benefit each other, making it easier to fulfil

the requirements of the other (Allen & Martin, 2017; van Steenbergen, Ellemers, & Mooijaart, 2007). Some of the positives of FIFO employment that make it easier to fulfil home roles include financial rewards and the associated improvements in lifestyle and personal satisfaction (Houghton, 1993; MacBeth et al., 2012). Positive work elements include training, study, career opportunities, and the intrinsic motivation of the work itself which can lead to improved self-efficacy (Houghton, 1993; MacBeth et al., 2012). Compressed work schedules and extended leisure time allow for longer periods of uninterrupted family time between rosters that can enhance personal, interpersonal and family well-being, and the quality of life at home while minimising family and educational disruptions (Houghton, 1993; MacBeth et al., 2012).

However, shorter rosters that strike a balance between time at work and time on leave have less of a negative impact on FIFO workers and their families (Clifford, 2009; Gallegos, 2006; Gent, 2004; Hoath & Haslam McKenzie, 2013; Sibbel, 2010; Watts, 2004). For example, longer roster cycles with work-to-leave ratios greater than two seem particularly challenging, perhaps because of the longer time apart but also because families may feel that they are trying to achieve as much as they can whilst home together (Clifford, 2009). This may also account for the evidence that departure to, and return from, work are particularly stressful as couples and families prepare for separation and adapt to reconnecting (Fresle, 2010; Gallegos, 2006; Henry, Hamilton, Watson, & MacDonald, 2013).

The more time away from home means that workers spend a large amount of time away from their families, leading to a reduction in quality time available to perform family roles (Blackman et al., 2014; Pocock, van Wanrooy, Strazzari, & Bridge, 2001; Welters et al., 2013; Wilson, Polzer-Debruyne, Chen, & Fernandes, 2007) and less time to participate in leisure activities (Urhonen et al., 2016). The majority of FIFO workers found that working

arrangements interfered in their family life and ability to complete tasks at home (Barclay et al., 2014; Gardner et al., 2018). Particularly noteworthy was the issue that longer absences hindered family birthday celebrations, school pick-ups, sharing family meals, and other routines (Lau, Ma, Chan, & He, 2012; Schultheiss, 2006).

Not only did FIFO workers feel that they missed out on events and activities, there were additional challenges for those with families. They reported difficulties in providing consistent parenting over the roster cycle (Lester et al., 2015) and missing out on shared social experiences (Gardner et al., 2018). While some workers enjoy being separated from home when at work, they miss out on the routine of the family at home (Lorenz, 2018) and disrupt the routine when they return (Haslam-McKenzie & Hoath, 2014). Furthermore, that lost time might not be able to be caught up as they become distanced from the social system at home resulting in the FIFO worker feeling like an outsider in their home (Lorenz, 2018). In one study, participants described it as “psychological detachment” (Gardner et al., 2018). This lack of a sense of belonging in the family unit can cause misunderstandings and a necessity to renegotiate ground rules (Gramling, 1989).

Interestingly, having a clear work-life separation was an advantage of FIFO where the workers felt that their roles between home and work didn't spill over into one another (Blackman et al., 2014; Welters et al., 2013). This was observed in qualitative research that noted that FIFO workers viewed work and life as separate lives where they had different roles, responsibilities, and even different “personalities” (Gardner et al., 2018). Some FIFO workers reported time apart as being reinvigorating and an opportunity to enjoy personal time (Haslam-McKenzie & Hoath, 2014). Others noted that the even-time compressed working arrangements led to fewer hours worked per annum than a residential job, sometimes only working for 6 or 7 months a year (Misan & Rudnik, 2015). Further it has been argued that the

time off was required because higher perceived WFC was related to a higher need for recovery time (Jansen et al., 2003). During this time off, they reported spending the time with family and valuing a slower pace of life (Haslam-McKenzie & Hoath, 2014).

Social Integration and Support

As with the long-distance commuting literature, being able to live where you like was listed as a benefit of FIFO (Blackman et al., 2014; Hubinger, Parker, & Clavarino, 2002; Welters et al., 2013). Being able to stay within your regular community was a strength. It follows, then, that there was frustration around the lack of ability to remain integrated, with FIFO workers reporting a desire to have more contact with their sports and social clubs (Welters et al., 2013). Some qualitative research with mining FIFO workers indicates that they do not participate in community sports because of their rosters (Torkington, Larkins, & Gupta, 2011). However, Haslam-McKenzie and Hoath (2014) reported that their mining FIFO participants were actively involved in a wide range of community-based volunteer organisations as well as sporting teams that adapted to their working arrangements.

It has also been argued that the conflict between work and family may be influenced by social support (Vojnovic, Michelson, Jackson, & Bahn, 2014). For example, a survey of mining and non-mining employees found that workplace social support was the only link between WFC and stress, but only in the mining employees (McTernan, Dollard, Tuckey, & Vandenberg, 2016). It was proposed that this was due to the isolation of worker groups in mining, leading to more benefit gained from social support (Gardner et al., 2018; Misan & Rudnik, 2015). It may be that this workplace social support is more important in the FIFO context given a lack of family support when at work.

Relationships

Having positive relationships help people cope with stress caused by perceptions of WFC (Cohen, 2004). To understand the impact of FIFO on relationships, one source of evidence is the long-distance relationship literature. While previously the results have been mixed, more recent research has shown that people in long-distance relationships reported higher levels of relationship quality and less perceived, but not actual, likelihood of breaking up (Kelmer, Rhoades, Stanley, & Markman, 2013). The proposed explanation was because the couples may make the most of the time together rather than focus on daily hassles. Research has found that they tend to avoid or postpone conflict (Sahlstein, 2004). The “honeymoon effect” or emotional rollercoaster (Westefeld & Liddell, 1982) has also been reported in the long-distance relationship literature with emotional highs and lows, as well as peaks in women’s sexual desire prior to reunions with their long-distance partner (Hamilton & Meston, 2010). Similar emotional transitions have been reported in FIFO workers as well, particularly impacting the mood and stress levels in the worker while away and improving when the couple reunited (Clifford, 2009; Diamond, Hicks, & Otter-Henderson, 2008).

Research shows that FIFO partners can also feel the impact of a weekly commuting working arrangements (Green, Hogarth, & Shackleton, 1999). The challenges faced by FIFO partners trying to manage family cohesion (Kaczmarek & Sibbel, 2008) has led to negative implications for relationships (Torkington et al., 2011). A small qualitative FIFO study, however, found that the psychological distance in FIFO adversely impacted on relationship quality (Gardner et al., 2018). In another study, concerns about infidelity have been shown to negatively impact coping (Lau et al., 2012). Gent (2004) and Voysey (2012) also identify significantly poorer relationship satisfaction in FIFO samples.

However, when comparing 222 daily commuters and FIFO workers, Clifford (2009) found that on average, FIFO work didn't have a negative impact on the quality of relationships. Similarly, a study looking mostly at FIFO partners found that there was no difference between relatively small FIFO and non FIFO samples (Dittman et al., 2016). Some FIFO studies report relationship satisfaction to be in line with norms for married couples (Bradbury, 2011; Sibbel, 2010) and no more likely to have lower relationship quality than daily commuters (Clifford, 2009). In Gent's (2004) study, FIFO workers scored significantly higher on affectional expression and were similar to non-FIFO workers when looking at relationship cohesion. Greer and Stokes (2011) analysed census data containing divorce rates in mining employees and, based on known FIFO localities, found that FIFO did not influence divorce rates. Saxinger (2016) found that over 70% participants reported satisfaction with their relationship, indicating that factors other than long-distance commuting were influencing divorce rates. Haslam-McKenzie and Hoath (2014) argued that FIFO working arrangements may merely exacerbate relationship difficulties.

One fact that must be noted is that there are a range of individual differences where, for some couples, time apart may in fact strengthen their relationship. Some couples reported that having time without their partner was positive, while others reported a greater level of loneliness, but the majority reported that long working hours negatively impacted on mood and energy to maintain intimate relations upon their return (Pocock et al., 2001). The lack of consistent findings may suggest that where relationship or personal problems are already evident, or likely to arise, FIFO may exacerbate the situation and emotional responses (Hoath & Haslam McKenzie, 2013; Pocock et al., 2001). Context or conditions play a role where greater negative effects of FIFO arrangements, such as increased time away from home or having younger children under 5 years old, may influence relationship outcomes (Gent, 2004;

Watts, 2004). Given the small sample and the discrepancy across studies, the impact of FIFO working arrangements such as rosters on relationships is not definitively known.

While the impact of FIFO working arrangements on relationship quality is not clear, it may exacerbate the impact of relationship difficulties on the workers. Relationship difficulties were found to be a significant differentiation between the prevalence of suicides in mining workers compared to non-mining workers (McPhedran & De Leo, 2013). While this doesn't differentiate FIFO from non-FIFO workers within the mining industry, the impact of relationship quality on mental health in this workforce is important to consider.

Mental Health in FIFO

When looking at mental health prevalence, a sample of 380 FIFO workers reported a lower prevalence of doctor-diagnosed mental health problems when compared to shift workers and other employment types (Weeramanthri & Jancey, 2013). This, however, is not surprising given the “macho” culture and fear of reporting mental health issues evident in FIFO contexts (Henry et al., 2013).

Rather than relying on diagnoses, a survey of 629 resources industry FIFO workers, asking participants to identify symptoms, found that more than one third of the sample had depression, anxiety, and/or stress (Vojnovic & Bahn, 2015). More specifically, 28% of participants reported a moderate to very high level of depression, 22% reported moderate to high levels of anxiety, and 19% experienced more than moderate stress. While very weak - albeit statistically significant - correlations were found with mental illness outcomes and increased age (ranging from -0.081 to -0.098), there was no relationship found between mental illness and gender or the existence of a partner at home.

Another contradictory result was a study of 286 FIFO workers who found that despite high levels of loneliness and sleep difficulties, the rates of depression, anxiety, and stress were lower than the general population (Barclay et al., 2014). Although depression, anxiety, and stress levels are not consistently higher than the general population, unfortunately suicidality has been (Miller, Brook, Stomski, Ditchburn, & Morrison, 2019).

When discussing the mental health of FIFO workers, we generally mean mental health difficulties. Understanding how thoughts and feelings are interrelated helps to understand how perceptions of FIFO working arrangements can influence mental health outcomes. Cognitive theory (Beck, Brown, Steer, Eidelson, & Riskind, 1987) posits that dysfunctional thoughts lead to extreme emotions which then lead to maladaptive behaviours. According to hopelessness theory, a combination of a genetic predisposition and cognition of negative challenges leads to affective disorders, (Abramson, Metalsky, & Alloy, 1989; Hankin, Abramson, Miller, & Haefffel, 2004). For example, diathesis-stress based theoretical approaches posit that the risk of depression depends on stress and individual vulnerability (Colodro-Conde et al., 2018). The combination of levels of vulnerability and stressors vary from person to person (Liu, Kleiman, Nestor, & Check, 2015). In people who have a vulnerability to depression, additional stressors can cause an internal threshold to be reached, causing depression (Lewinsohn, Joiner, & Rohde, 2001). The non-FIFO literature has also examined other variables perceived to be related to stress. Personality, self-esteem, environment, relationships, and psychosocial stressors have all had significant relationships with stress, as has an increase in hours worked (Gottholmseder et al., 2009). Thus, it is of particular interest to consider the impact of FIFO working arrangements on stress.

Of all the mental health workers' compensation claims in workplaces, 91% were attributed to stress (Safe Work Australia, 2018). Karasek's job demand/control model (JDC)

was designed to determine mental strain at work (Häusser, Mojzisch, Niesel, & Schulz-Hardt, 2010). Job demands include workload, role conflicts, and physical and emotional demands (Karasek et al., 1998). Job control involves the amount of decision latitude a person has over their use of skills and decision authority at work. In this model, higher levels of demand and lower levels of control lead to situations of high strain (Häusser et al., 2010). This may be similar to the way some perceive the FIFO working arrangements and subsequent perceived WFC as strain, particularly if roster control is low.

Despite one relatively small mining study that found that FIFO was not related to average cortisol levels and perceived stress (Clifford, 2009), there were fluctuations found based on the impact of the roster. However, in a larger construction industry study, rosters with 1 or 2 weeks on, 1 week off were found to relate to a higher risk of distress than 4 weeks on, 1 week off (Bowers, Lo, Miller, Mawren, & Jones, 2018). This study also found that participants who were stressed about their roster length also experienced higher levels of distress. A generally high level of distress was found in this study, with 28% of the sample in the high to very high range.

Albrecht and Anglim (2018) suggested that FIFO specific demands, such as rosters, be explored further when looking at mental health in FIFO workers. They highlighted the roster recovery period (days off) as potentially important when analysing mental health outcomes. The effort-recovery model (Meijman & Mulder, 1998) posits that effort at work leads to negative reactions, such as stress and fatigue, in employees. When work demands are continuous, and recovery time is scarce, recovery is hindered and the negative reactions compound which can lead to negative psychological impacts (Sonnentag, 2001; Sonnentag & Fritz, 2007). However, FIFO working arrangements allow separation from work, thus facilitating better recovery which helps to reverse these reactions (Sonnentag, 2001).

Other challenges reported by FIFO workers were the long hours and early starts (Barclay et al., 2014; Welters et al., 2013). Longer shifts and early start times are linked to shorter sleeping and greater sleepiness (Folkard & Barton, 1993; Ingre, Kecklund, Åkerstedt, Söderström, & Kecklund, 2008; Sasaki et al., 1999). FIFO workers have also reported a lack of privacy (Gramling & Brabant, 1986) and difficulty sleeping (Barclay et al., 2014; Torkington et al., 2011). A lack of quality sleep negatively impacts mood (Riedy, Dawson, & Vila, 2018; Shattuck & Matsangas, 2018) and was found to be a cause of psychological distress and sleepiness in FIFO workers (Atkins & Lay, 2018).

The job demand/control model was expanded to include social support recognising that support can potentially act as a buffer against the impact that increased demands and lack of control have on stress outcomes (Johnson & Hall, 1988). This also aligns with the literature in FIFO that indicates that co-worker support, which is social support at work, is important in helping protect against depression (McTernan et al., 2016).

Feelings of isolation occur when people who have a need for social relatedness (McLaughlin, 2017) are lacking support and understanding (Taha & Caldwell, 1993). In a study of 284 FIFO workers, more than half reported feeling isolated (Barclay et al., 2014) and lonely (Torkington et al., 2011) which has been shown to negatively impact mood, specifically increasing depression (Cacioppo, Hughes, Waite, Hawkley, & Thisted, 2006). Isolation and loneliness were also themes that emerged in small FIFO samples in Australian qualitative studies (Gardner et al., 2018; Lovell & Critchley, 2010). Research suggests that the negative media coverage of FIFO workers had further isolated them and they were reluctant to seek help from services (Gardner et al., 2018). Henry et al. (2013) found that a macho attitude and a limited insight into their own stress, mental health, and wellbeing resulted in FIFO workers not seeking help (also see Torkington et al., 2011).

Preference for a Different Roster

Being able to have some control in roster choice has been shown to improve WFC outcomes. Research into different working arrangements in workers at a coal mine found that longer rosters had a positive impact on workers' family life because of the reduction in ratio of commute time to hours worked and increased time at home (Hanoa, Baste, Kooij, Sommervold, & Moen, 2011). That particular study, however, followed those workers who *chose* to switch from a 7-days on, 7-days off roster to a 14-days on, 14-days off roster because they perceived it would be better for them. Similarly, higher levels of control over aspects of shifts was found to be related to lower work-life conflict indicators (Ljoså & Lau, 2009). Therefore, it is likely that preference for a different roster will influence perceived WFC.

Time in FIFO and Employee Level

It has been suggested that time in FIFO may also impact family relationships because there might be a period of adjustment to this new dynamic (Lorenz, 2018). In a qualitative study of Canadian mining FIFO workers, participants who worked in FIFO for a longer period found it easier than those who were new to FIFO working arrangements (Jones & Southcott, 2015), possibly indicating lower perceived WFC. Participants who were new to FIFO indicated more stress and fatigue than those who had been working FIFO rosters for longer periods, possibly due to a lack of adjustment when new (Behr, 2012). Length of time in FIFO is, therefore, likely to positively influence mental health outcomes. Additionally, the level of an employee within the organisation may impact their stress, as the higher level employees may have more work demands; however, also greater levels of control (Kim, Murrmann, & Lee, 2009).

The Proposed Model in this Thesis

Controversy surrounds the reported impact that FIFO work has on the FIFO worker's life outside of work. There are many individuals who attribute relationship problems and challenges associated with social commitments, mental health difficulties, and suicidality to the FIFO working arrangements and this thesis seeks to understand the FIFO working arrangements' interaction with employees' personal lives.

As with model 1, model 2a and 2b respectively seek to understand if days on and days off (a) is related to personal outcomes or if even-time roster ratio (b) is more important. The hypothesised relationships are outlined in Figure 4 and Figure 5 below (more detail can be found in Appendix A).

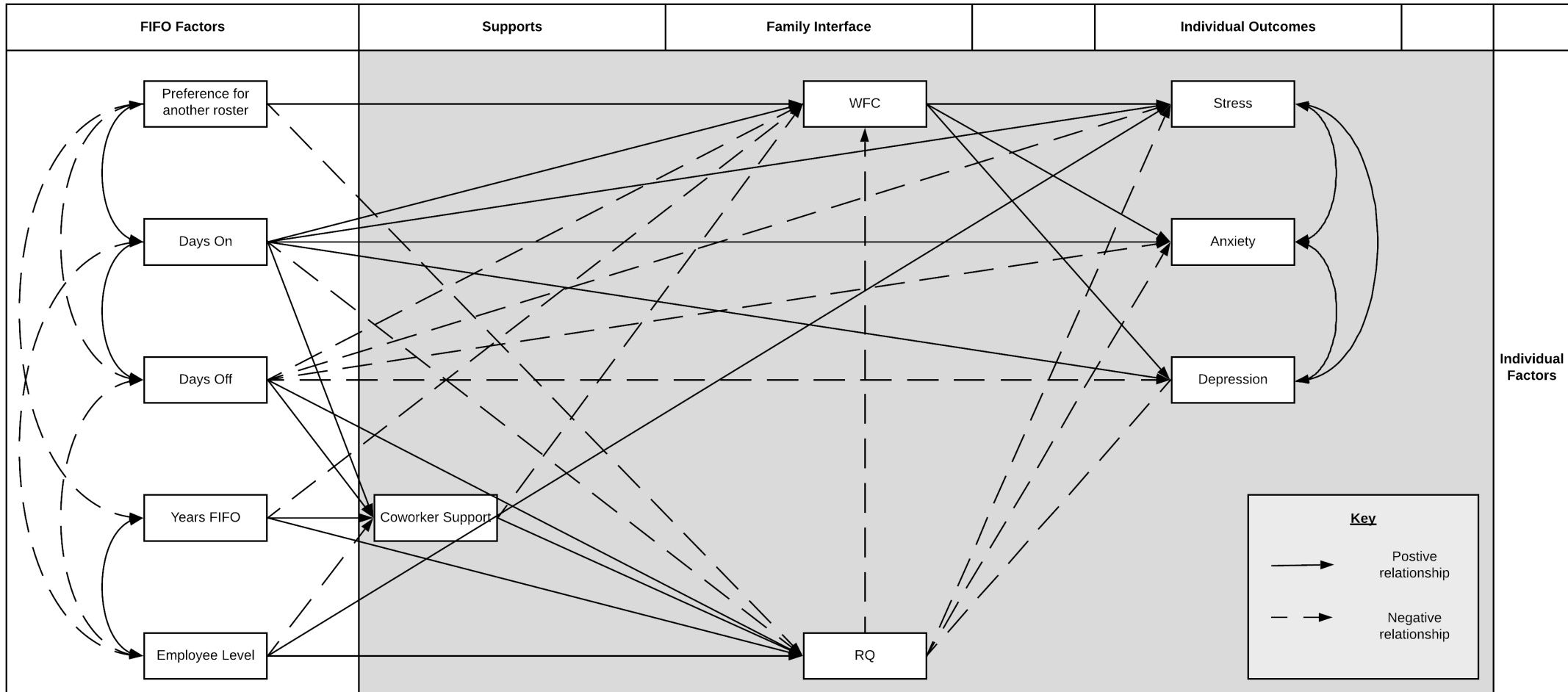


Figure 4. Proposed model (2a) including hypothesised relationships for exploring the impact FIFO working arrangements, using days on and days off separated, have on individual factors.

NOTE: RQ = Relationship quality; WFC = Work-Family Conflict

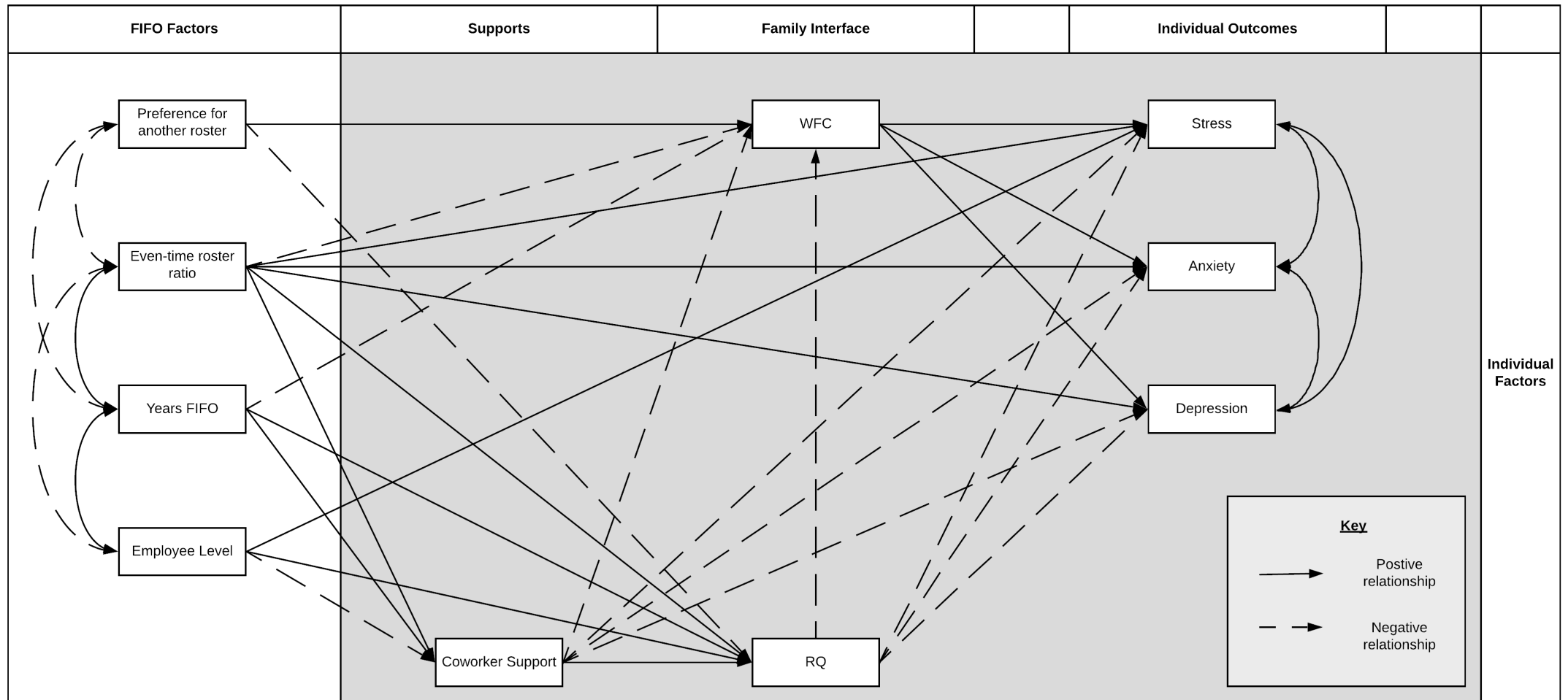


Figure 5. Proposed model (2b) including hypothesised relationships for exploring the impact FIFO working arrangements, using roster ratio, have on individual factors.

NOTE: RQ = Relationship quality; WFC = Work-Family Conflict

Model 3 – Combined Model with Work and Personal Impacts

The literature tells us that there is an overlap between work and personal life domains, and that the demands (and/or resources) of one life domain may spill over into the demands (and/or resources) of the other causing interference or conflict (negative spillover) or alternatively enrichment (positive spillover) (Frone, Russell, & Cooper, 1992). In negative spillover, conflict can arise from either work interfering with family obligations and the ability to meet family demands, or when family obligations interfere with the ability to meet work demands (Greenhaus & Powell, 2003; Nomaguchi, 2012).

Recent research has shown a significant relationship between affective commitment, wellbeing, and positive emotions (Maleka, Mmako, & Swarts, 2017). POS has also been shown to influence how people handle work-family conflict (Frone et al., 1992; Kossek et al., 2011; Pan & Yeh, 2012). Furthermore, it has been established that a lack of POS and PSS increases mental health challenges, including strain and burnout, from workload pressures (Beehr, Farmer, Glazer, Gudanowski, & Nair, 2003; Campbell, Perry, Maertz Jr, Allen, & Griffeth, 2013; Gibson et al., 2009; Willemse, de Jonge, Smit, Depla, & Pot, 2012). PSS may reduce the risk of mental health such as depression and anxiety (Rugulies, Bültmann, Aust, & Burr, 2006; Sinokki et al., 2009) as well as significantly reduce the risk of stress and other health-related outcomes (Hämmig, 2017). In combining the first two models, it is hoped that a greater understanding of the relationship between work and personal impacts in the context of FIFO working arrangements will be found.

The Proposed Model in this Thesis

There is no published research demonstrating a relationship between these work and personal factors in the context of a FIFO working arrangement. The aim of this model is to explore these factors together in this context. Models 1 and 2 were integrated into a combined

model which explored how the FIFO working arrangements were related to perceptions around work and family and how they were related to organisational and mental health outcomes. model 3a (Figure 6) combines model 1a and 2a to hypothesise the relationships when looking at days on and days off separately, and model 3b combines model 1b and 2b to hypothesise roster ratio (Figure 7). More detail about the hypothesised relationships are also listed in Appendix A.

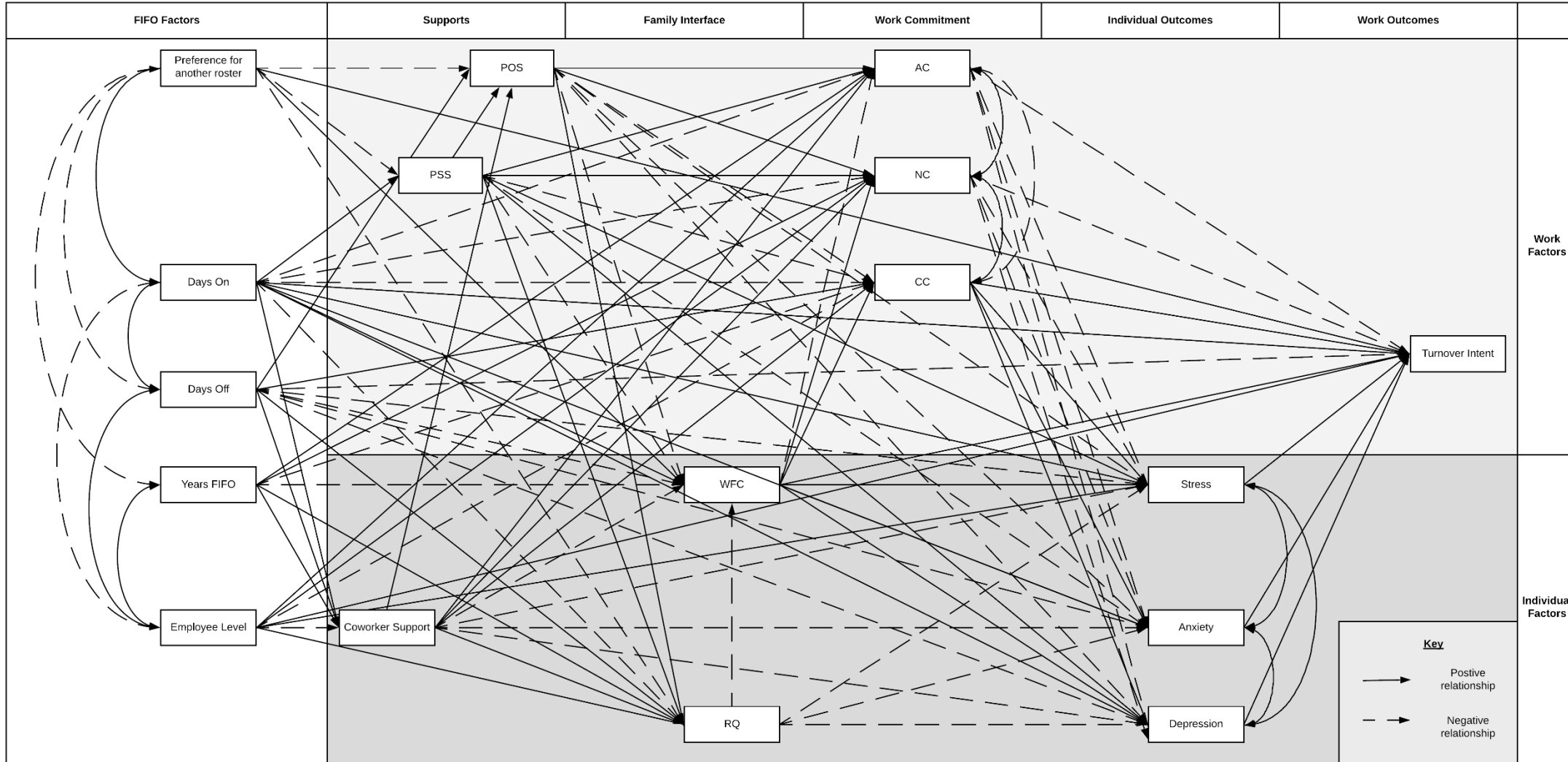


Figure 6. Proposed model (3a) exploring the impact of FIFO working arrangements, days on and days off separated, on work and individual factors.

NOTE: PSS = Perceived Supervisor Support, POS = Perceived Organisational Support, AC = Affective Commitment, NC = Normative Commitment, CC = Continuance Commitment, WFC = Work Family Conflict, RQ = Relationship Quality

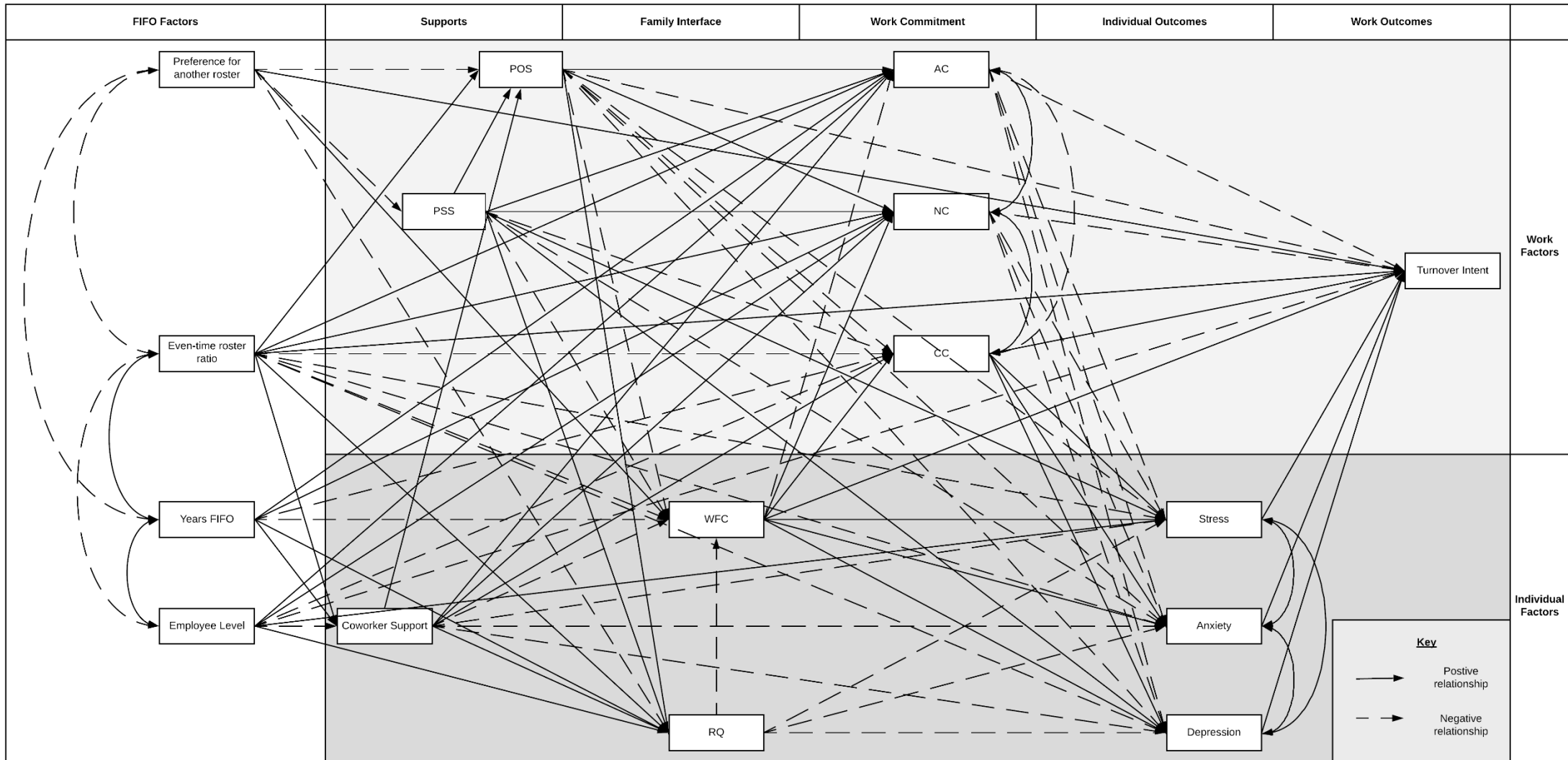


Figure 7. Proposed model (3b) exploring the impact of FIFO working arrangements, using roster ratio, on work and individual factors.

NOTE: PSS = Perceived Supervisor Support, POS = Perceived Organisational Support, AC = Affective Commitment, NC = Normative Commitment, CC = Continuance Commitment, WFC = Work Family Conflict, RQ = Relationship Quality

Method

Design

This thesis used a cross-sectional quantitative survey design (Appendix B for a copy of the survey) that was exploratory in nature. It was part of a larger research project conducted from 2012 until 2015; however, only results relevant to the aims of this thesis will be reported here.

Participants

Responses were analysed from FIFO workers ($n = 980$) from across Australia who completed an online or paper survey. Ages ranged from 18-69 years with a mean of 37.9 ($\sigma = 10.89$). Males made up 75.6% of participants, and females 16.7%, with 26.0% in a relationship at the time of the survey and 29.8% with children. The mean total time employed in a FIFO capacity was 6.16 years ($\sigma = 5.57$; range 0-30). Mining participants were the largest group (43.8%), followed by oil and gas (10.2%), and construction (3.3%). Educationally, 36.2% reported completing some form of university degree; 30.1% reported completing a TAFE or apprenticeship qualification; 22.4% reported that they had completed high school, and 3.6% reported that they had not completed high school. The majority of participants indicated that they were general workers (54.8%), followed by office staff (24.3%), with managers the next highest group (6.8%), and supervisors and apprentices the smallest groups (3.3% and 3.0% respectively; 7.9% missing). Permanent employees accounted for 52.8% of the sample, contractors 37.7%, while 8.5% did not respond to this item.

Measures

Due to the logistics, the target population, and the number of constructs under consideration, adapted shorter versions of scales were used in instances where reliability and validity could be maintained by drawing on existing literature associated with the underlying psychometric properties and structure of the original scales.

Demographics

A range of demographic items were developed to capture sample characteristics. These included age, biological sex, job role, employment status, and relationship status.

FIFO Working Arrangements

Questions relating to FIFO work included days on / days off, length of time in FIFO, preference for a different swing / roster, and employee level.

Even-Time Roster Ratio

Even-time roster ratio was calculated as days off / days on. As the ratio of time off to time on is particularly relevant in this thesis, numbers closest to 1 indicate less discrepancy between days on and days off and therefore the more “even-time” the roster is. Numbers closer to zero indicated a “high compression” roster.

Organisational Commitment

This was measured with a modified version of the AC, CC and NC organisational commitment scales (Allen & Meyer, 1990). These scales had internal consistency which was at, or above, an acceptable level (Cronbach’s alpha ranges: AC = (0.74-0.90); NC = (0.52-0.83); CC = (0.69-0.85) (Allen & Meyer, 1996). Because this was part of a larger study, each scale was reduced to 6 items for the sake of brevity. The original factor analysis (Allen & Meyer, 1990; Culpepper, 2000; Fields, 2002) was used to determine which two items loaded

the least on the scales and these items were removed. Items (such as “I do not feel like ‘part of the family’ at my organisation”, “I would feel guilty if I left my organisation now”, and “I feel that I have too few options to consider leaving this organisation”) were rated on a 7-point Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree) with the AC items reverse-scored. Higher scores indicated greater levels of the respective type of commitment.

Perceived Supervisor Support

PSS was measured using a modified 4-item version (Walford, 2012) of the Survey of Perceived Supervisory Support developed by Kottke and Sharafinski (1988) where participants were asked to consider the support received by the supervisor to whom they reported to most frequently (e.g. “My supervisor shows a lot of concern for me”). These items demonstrated high factor loading (range .90-.94; Kottke & Sharafinski, 1988) and were rated on a 7-point Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree) with higher scores indicating greater supervisor support. In the current study, Cronbach’s alpha indicates excellent internal consistency ($\alpha=.95$).

Perceived Organisational Support

POS was measured by a modified 3-item version (Walford, 2012) of the Eisenberger et al. (1986) measure of POS. These items all demonstrated high factor loading (range 0.80-0.84) on the scale, which itself has been shown to demonstrate good uni-dimensionality (Eisenberger et al., 1986; Eisenberger et al., 2002; Gibson et al., 2009; Shore & Tetrick, 1991; Shore & Wayne, 1993). This thesis found that this POS measure demonstrated excellent internal consistency ($\alpha=.92$). Items (e.g. “The organisation really cares about my well-being”) were rated on a 7-point Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree) with higher scores indicating greater organisational support.

Turnover Intent

Turnover intent has been found to be a good predictor of actual turnover behaviour (Parasuraman, 1982). When the construct is concrete, clearly defined, and unidimensional a single-item measure has been reported to be the best approach (Rossiter, 2002; Sackett & Larson, 1990). Further, researchers have demonstrated comparable predictive validity between single and multi-item scales (Bergkvist & Rossiter, 2007, 2009). Research has indicated that FIFO workers often have short-term financial goals to meet (Gallegos, 2006), therefore a question asking about turnover intent in the next 2 years was asked: “Within the next 2 years, how likely are you to leave your current organisation for a job in another organisation?”

Work-Family Conflict

The work-family conflict measures used in the thesis are validated measures taken from peer reviewed publications, so are well established in the literature as measuring work-family conflict, not work-nonwork conflict. A composite scale was created using items from established measures of WFC that had good reliability (Funston, 2012). The Work-Family Conflict scale (Gutek et al., 1991) was used along with the Lifestyle and Relationship Dissatisfaction scale (Clifford, 2009). The latter was designed to assess work-life conflict (WLC) with FIFO specifically (e.g. “My roster causes me to miss important events with those close to me (eg. birthdays, Christmas, kids’ milestones, anniversaries)”). The former consists of two previously developed scales; namely the Work Interference with Family scale (WIF; Kopelman, Greenhaus, & Connolly, 1983) and the Family Interface with Work scale (FIW; Burley, 1990). To suit the FIFO context, the word “swing” was inserted into three questions to enable clarification for items asking about activities occurring after their shift (e.g. “After

my swing at work, I am too tired to do some of the things I like to do”). The responses were measured on a 7-point Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree) with higher scores indicating greater conflict. The WFC scales have reported Cronbach’s alphas of .0.80 (WIF) and .75 (FIW) (Funston, 2012).

Mental Health

The 21-item Depression Anxiety and Stress scales (Lovibond & Lovibond, 1995) are validated scales measuring depression, anxiety, and stress (e.g. "I couldn't seem to experience any positive feeling at all", "I was aware of dryness of my mouth", & "I found it hard to wind down"; Henry & Crawford, 2005). Likert scale responses ranged from “Did not apply to me at all” (0) to “Most of the time” (3). Items were then summed for each scale, doubled, and then the levels’ severity determined as per the scoring instructions (Lovibond & Lovibond, 1995). Cronbach’s alpha for the scales is .88 (depression), .82 (anxiety), .90 (stress), and .93 for the overall scale (Henry & Crawford, 2005).

Co-Worker Support

Social support was measured by participants rating co-worker support as useful on a scale of strongly disagree (1) to strongly agree (5). As outlined above, single item measures have been shown to be valid when a construct is clearly defined (Bergkvist & Rossiter, 2007, 2009; Rossiter, 2002; Sackett & Larson, 1990). Higher scores indicated co-workers were a useful support.

Relationship Quality

Relationship quality was measured using a 12-item version of the Quality of Relationship inventory (Pierce, 1994). Items were rated on a 4-point Likert scale from “Not at all” (1) to “Very much” (4). Research has shown the scale internal consistency was adequate,

ranging from $\alpha=.73$ to $\alpha=.83$ (Yearwood Travezan, Vliegen, Luyten, Chau, & Corveleyn, 2018), and similar results were found in this thesis where $\alpha=.88$. An example question is: “To what extent can you turn to this person for advice about problems?”.

Procedure

Ethical approval was provided by the Human Research Ethics Committee at Murdoch University (Project Number: 2012/073). Participants were recruited via FIFO support organisations, social media, snowball sampling, and personal contacts. Some media interest was also generated (e.g. radio interviews) which supported participant recruitment. The objective of the convenience sampling was to obtain as large and as representative a sample of FIFO workers as possible and it was recognised that a minimum sample of size of 501 would be desirable in order for the analysis to have sufficient power (Faul, Erdfelder, Buchner, & Lang, 2009). For the online survey, individuals were directed to a website (www.FIFOresearch.com). After selecting the appropriate link, individuals were presented with information about the survey and a consent page. A paper version of the survey was also developed which contained the same information, consent form, and measures. Participants completing the paper survey ($n = 3$) posted their survey to the researchers.

Results

Descriptive Statistics

The means, standard deviations, and normality output for all scales are shown in Table 1 below. Years as a FIFO worker, days off, and the DASS subscales all demonstrated a highly positive skew, while RQ demonstrated a highly negative skew (Field, 2009), and there were normal levels of depression, anxiety, and stress on average.

Table 1.

Mean, standard deviations, skew, and kurtosis for variables.

	N	Mean	SD	Skewness		Kurtosis	
				Statistic	Std. Error	Statistic	Std. Error
Age	904	37.86	10.89	0.39	0.08	-0.75	0.16
Sex	905	1.18	0.39	1.66	0.08	0.75	0.16
Education level	905	3.30	1.23	0.39	0.08	-0.45	0.16
Preference for another Roster	880	1.52	0.50	-0.08	0.08	-2.00	0.16
Even-time Roster Ratio	850	0.62	0.27	-0.02	0.08	-1.10	0.17
Days On	873	13.26	7.18	0.68	0.08	-0.27	0.17
Days Off	867	7.60	5.00	2.14	0.08	6.04	0.17
Employee Level	903	6.11	1.54	2.27	0.08	4.84	0.16
Years as FIFO worker	863	6.16	5.57	1.62	0.08	2.61	0.17
PSS	910	4.48	1.63	-0.54	0.08	-0.63	0.16
POS	894	3.97	1.57	-0.19	0.08	-0.85	0.16
Co-worker Support	325	4.07	1.18	0.17	0.14	0.70	0.27
AC	829	3.90	1.62	0.07	0.08	-0.87	0.17
NC	829	3.53	1.52	0.13	0.08	-0.75	0.17
CC	829	4.01	1.51	-0.11	0.08	-0.76	0.17
Turnover Intent	828	4.57	1.92	-0.32	0.08	-1.03	0.17
WFC	892	4.71	1.27	-0.51	0.08	-0.01	0.16
RQ	605	3.36	0.51	-1.10	0.10	1.29	0.20
Depression	464	1.69	1.19	1.63	0.11	1.50	0.23
Anxiety	464	1.51	1.13	2.20	0.11	3.60	0.23
Stress	466	1.53	0.91	1.85	0.11	2.99	0.23

NOTE: PSS = Perceived Supervisor Support, POS = Perceived Organisational Support, AC = Affective Commitment, NC = Normative Commitment, CC = Continuance Commitment, WFC = Work Family Conflict, RQ = Relationship Quality.

Spearman's Rho was used to calculate correlations (Field, 2009) as some scores violated assumptions of normality and were not able to be rectified by log and square root transformation methods (Field, 2009). These correlations are shown in shown in Table 2 below along with the reliability coefficients for the measures, which all exceed the recommended minimum of .7 (Nunnally, 1978).

Higher age was positively correlated with time in FIFO and negatively related to employee level and wanting a different roster. Being male was weakly correlated with higher WFC and a longer time in FIFO, as well as a lower education level. There was also a weak relationship between being younger and being female. Being younger weakly correlated with a higher turnover intent, PSS, depression, anxiety, and stress.

Even-time roster ratio had weak negative correlations with turnover intent, WFC, and mental health difficulties, as well as a negative relationship with wanting a different roster (moderate). Having a preference for a different roster had a weak negative correlation with POS, PSS, and AC, as well as having a weak positive relationship with turnover intent, WFC, and mental health outcomes. POS and PSS had a large positive relationship with each other, as well as both having weak to medium relationships with increased AC, NC, and a negative relationship with turnover intent, WFC, and mental health difficulties. AC had a moderate positive relationship with NC, weak negative relationships with CC and mental health, and moderate negative relationships with WFC and turnover intent.

Depression, anxiety and stress had a positive relationship with CC (weak) and WFC (moderate for depression and stress). WFC, depression, anxiety, and stress all had weak positive relationships with CC.

Table 2.

Spearman's Rho Correlations and Cronbach's Alpha Reliabilities.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
1 Age	(N/A)																				
2 Sex	-.16**	(N/A)																			
3 Education level	-.05	.13**	(N/A)																		
4 Preference for another Roster	-.10**	-.06	.08*	(N/A)																	
5 Even-time Roster Ratio	.09*	-.04	-.14**	-.46**	(N/A)																
6 Days On	.04	-.02	.01	.28**	-.43**	(N/A)															
7 Days Off	.11**	-.06	-.12**	-.09**	.34**	.57**	(N/A)														
8 Employee Level	-.16**	.05	-.13**	.00	.07*	-.05	.05	(N/A)													
9 Years as FIFO worker	.38**	-.13**	-.14**	-.08*	.10**	.00	.05	-.13**	(N/A)												
10 PSS	-.10**	.09*	.06	-.18**	.04	-.04	-.05	-.06	-.05	(.95)											
11 POS	-.06	.05	.00	-.23**	.05	.00	.05	.00	.01	.58**	(.92)										
12 Co-worker Support	.09	.04	.18**	-.02	-.06	.07	.06	.01	-.07	.04	.07	(N/A)									
13 AC	-.03	.05	.00	-.19**	.07	-.02	.02	-.01	.00	.39**	.55**	.07	(.89)								
14 NC	-.04	.02	.02	-.09**	.00	.01	-.01	-.03	.03	.32**	.41**	.02	.31**	(.84)							
15 CC	-.04	-.04	-.17**	.03	.07*	-.06	.01	.13**	-.05	-.11**	-.09**	-.02	-.23**	.16**	(.80)						
16 Turnover Intent	-.10**	.01	.14**	.29**	-.21**	.06	-.09**	-.07	-.06	-.24**	-.30**	.01	-.43**	-.26**	.02	(N/A)					
17 WFC	-.02	-.08*	.03	.38**	-.20**	.16**	.00	-.02	.03	-.25**	-.22**	.00	-.35**	-.07*	.25**	.31**	(.92)				
18 RQ	.00	.05	-.06	-.09*	.00	-.03	-.01	.08	-.03	.12**	.12**	.13*	.07	.02	-.05	-.02	-.15**	(.84)			
19 Depression	-.11*	.00	.01	.23**	-.12*	.00	-.08	.04	.00	-.23**	-.25**	-.06	-.23**	-.04	.26**	.17**	.44**	-.17**	(.93)		
20 Anxiety	-.14**	-.02	-.05	.12**	-.06	.01	-.06	.05	-.01	-.18**	-.10*	-.04	-.11*	.06	.21**	.11*	.26**	-.09	.60**	(.88)	
21 Stress	-.11*	.00	.03	.19**	-.07	.02	-.03	.07	-.05	-.23**	-.23**	-.02	-.17**	-.02	.27**	.16**	.42**	-.15**	.76**	.68**	(.90)

NOTE: Cronbach's alpha reliabilities are presented in parentheses; PSS = Perceived Supervisor Support, POS = Perceived Organisational Support, AC = Affective Commitment, NC = Normative Commitment, CC = Continuance Commitment, WFC = Work Family Conflict, RQ = Relationship Quality.

*. p < 0.05 level (2-tailed); **. p < 0.01 level (2-tailed).

Model 1 – The Impact of FIFO Working Arrangement on Work Factors

Common Method

Common method bias has the potential to inflate or deflate any relationship found because of the use of a single method for gathering the data. However, it is argued that common method bias is unable to explain interaction effects (Siemsen, Roth, & Oliveira, 2010), with common method bias making interactions weaker rather than stronger. To prevent common method bias, it is recommended that separation of measurement, protecting anonymity, counterbalancing question order, and improving clarity of scale items are undertaken where possible (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). While this thesis was able to ensure anonymity and clarity of scale items, it was not able to counterbalance question order or include separation of measurement, therefore there is a risk of bias.

There are several methods that have been used throughout the literature in response to common method bias, including Harmon's single-factor method. While none of these methods are without limitation (Podsakoff et al., 2003), Harman's single factor method has been criticised because it does not control for common method, rather it helps to illustrate the extent to which the results may have been influenced by the survey methodology (Krishnaveni & Deepa, 2013; Podsakoff et al., 2003). Therefore, it was used in this thesis to explore the impact of common method. Harman's single factor test found that a single factor did not account for the majority of the variance in the data (33.19%).

Factor Analysis of the OC Scale

Because our scale used a modified version of the OC scale (Walford, 2012), exploratory analysis using principal components analysis with promax rotation was

conducted on the OC items. The OC analysis resulted in three factors with eigenvalues over Kaiser's criterion of 1 which, in combination, explained 71.35% of the variance as presented in Table 3 below (Field, 2009). This is comparable to the original measure, with the components reflecting the AC, CC, and NC subscales.

Table 3.

Principal Components Factor Analysis of the OC Items.

	Component		
	NC	AC	CC
I would feel guilty if I left my organisation now.	0.90		
I would not leave my organisation right now because I have a sense of obligation to the people in it.	0.87		
Even if it were to my advantage, I do not feel it would be right to leave my organisation now.	0.83		
My organisation deserves my loyalty.	0.67		
I do not feel a strong sense of belonging to my organisation.		0.92	
I do not feel "emotionally attached" to my organisation.		0.89	
I do not feel like "part of the family" at my organisation.		0.89	
I feel that I have too few options to consider leaving this organisation.			0.86
One of the few serious consequences of leaving this organisation would be the scarcity of available alternatives.			0.85
Right now, staying with my organisation is a matter of necessity as much as desire.			0.77
Too much in my life would be disrupted if I decided I wanted to leave my organisation now.			0.67
Eigenvalues	3.52	2.97	1.35
% of Variance	32.00	27.04	12.32
Cumulative %	32.00	59.04	71.35

NOTE: $n = 640$; NC = Normative Commitment. AC = Affective Commitment. CC = Continuous Commitment.

Path Analysis for Model 1

In order to understand the impact of days on and days off as separate variables, as well as looking at them represented as an even-time roster ratio, both variations were analysed in the model. Assumptions of linearity, causal closure, and unitary variables were met (Wright, as cited in Lessem, 2002). Due to missing responses, maximum likelihood estimation was conducted (Lleras, 2005; Tabachnick & Fidell, 2014).

Model 1(a) Work Factors with Days On and Days Off Working Arrangements. A chi-square test was significant ($\chi^2(18, n = 980) = 17.46, p = 0.49$), although this is known to be sensitive to sample size (Hooper, Coughlan, & Mullen, 2008). Incremental fit indices including the comparative fit index (CFI; Bentler, 1990), the normed fit index (NFI; Bentler & Bonett, 1980), the relative fit index (RFI; Bollen, 1986), and the Tucker Lewis index (TLI, 1973) also indicate good model fit by comparing the chi-square of the model with the null hypothesis. Incremental fit indices are generally acceptable with minimum cut-off around 0.95 (Hu & Bentler, 1999) and all were around this level or above (CFI = 1.000; NFI = 0.987; RFI = 0.967; and TLI = 1.001). The root mean square error of approximation (RMSEA) was below the recommended 0.07, indicating excellent fit (RMSEA = 0.000) (Hooper et al., 2008).

The path diagram, including standardised estimates and removing non-significant pathways, is presented in Figure 8. Turnover intent was predicted by days off, preferring a different roster, AC, and NC. PSS and POS were predictive of AC and NC. Preferring a different roster predicted AC, PSS, and POS. CC was predicted by employee level and PSS. CC was the only type of organisational commitment not directly related to turnover intent. This model explains 25% of the variance in turnover intent.

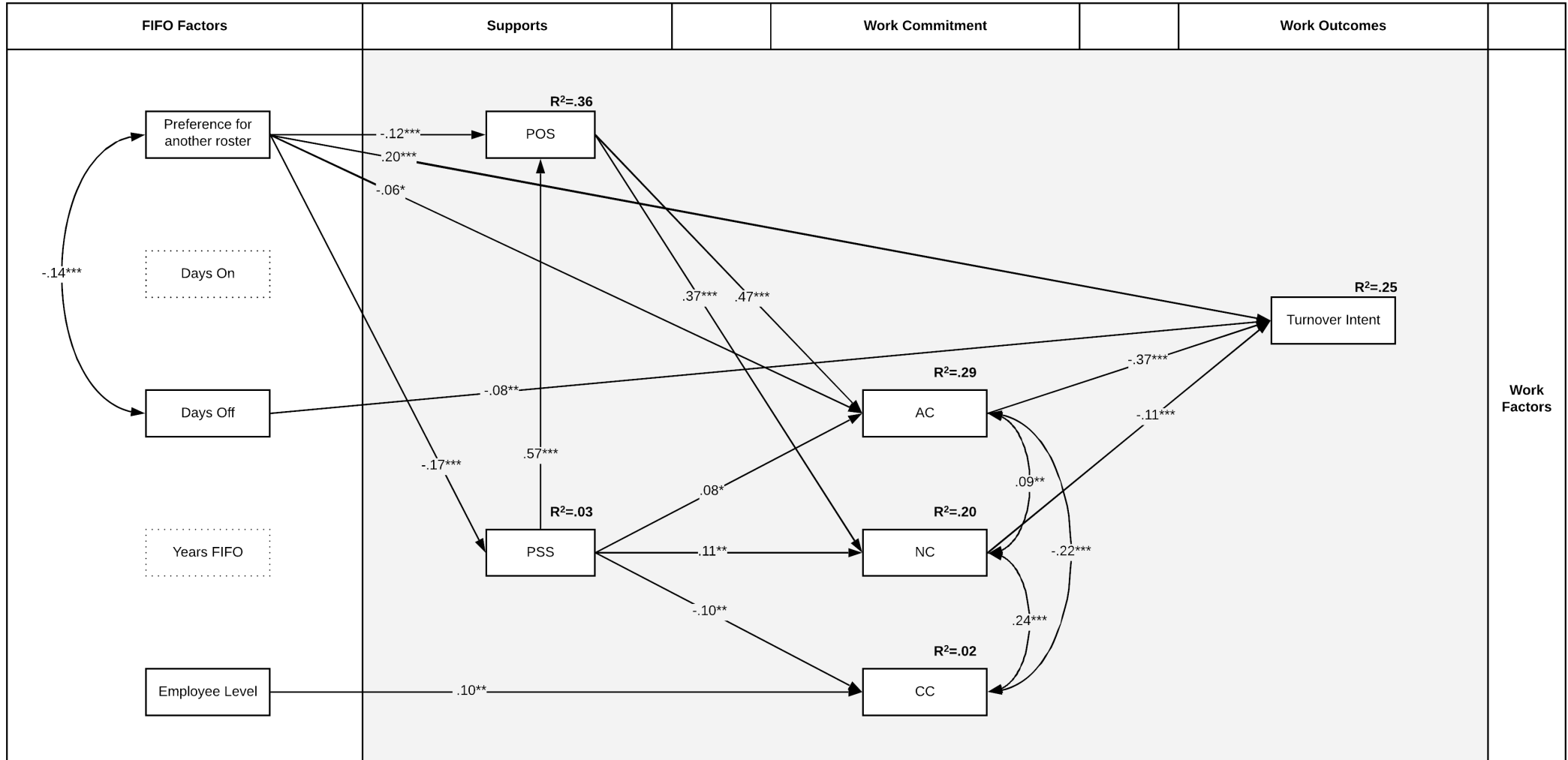


Figure 8. Model 1(a) showing standardised pathways and days on and days off separated.

NOTE: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$; PSS = Perceived Supervisor Support, POS = Perceived Organisational Support, AC = Affective Commitment, NC = Normative Commitment, CC = Continuance Commitment.

Model 1(b) Work Factors with Roster Ratio. The model looking at even-time roster ratio had a non-significant chi-square ($\chi^2 (18, n = 980) = 22.84, p = 0.197$), indicating that there was no significant difference between the observed and predicted model which demonstrates good overall model fit (Hooper et al., 2008). The model fitted the data well (CFI = 0.997; NFI = 0.985; RFI = 0.962; and TLI = 0.992) and demonstrated a good approximation of the population (RMSEA = 0.017).

Figure 9 below shows the path diagram with standardised estimates with non-significant pathways removed. Even-time roster ratio had a weak positive relationship with CC, and a weak negative relationship with turnover intent. As with model 1(a), this model shows that 25% of the variance in turnover intent was explained by these variables.

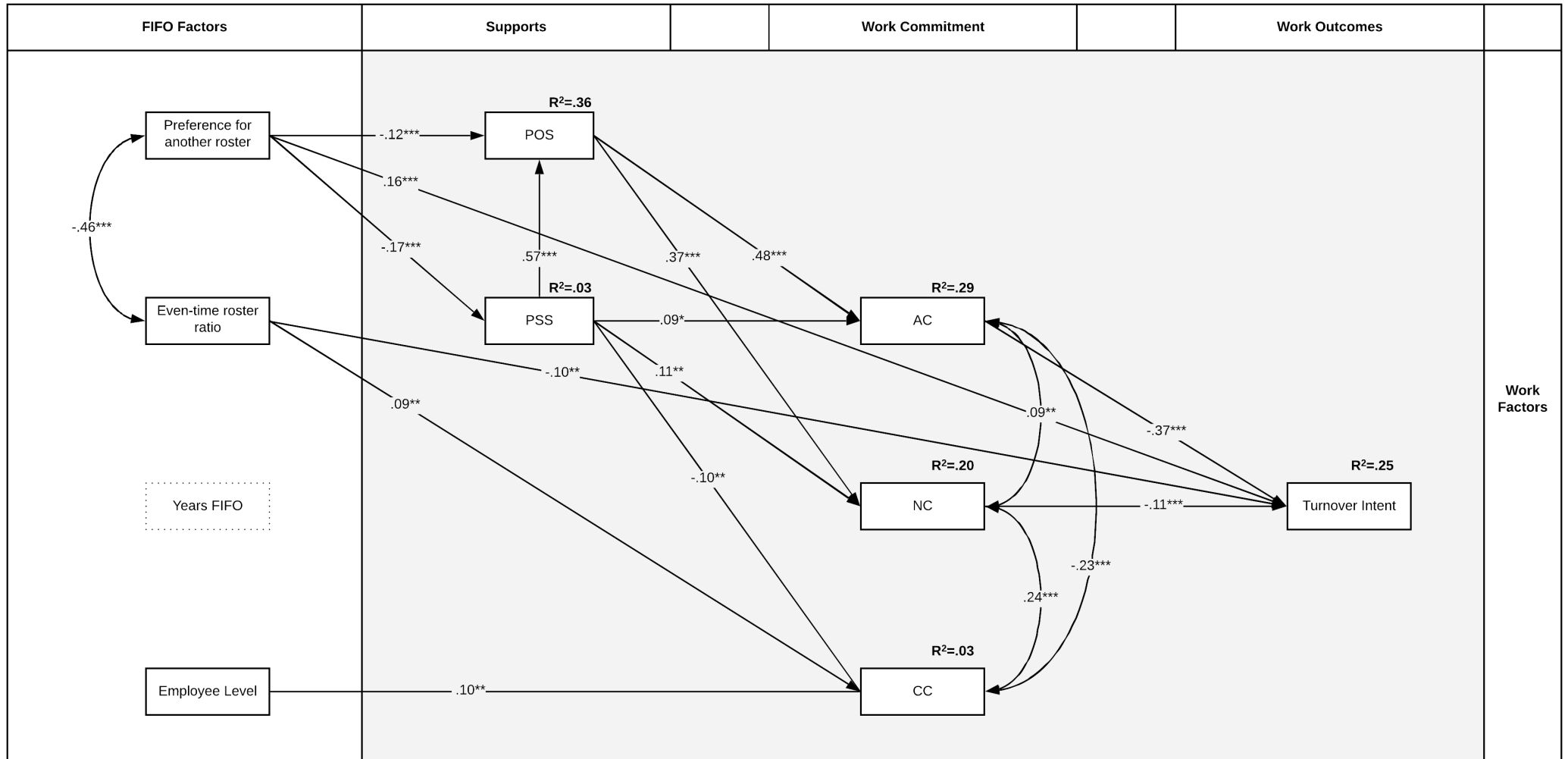


Figure 9. Model 1(b) showing standardised pathways and including roster ratio.

NOTE: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$; PSS = Perceived Supervisor Support, POS = Perceived Organisational Support, AC = Affective Commitment, NC = Normative Commitment, CC = Continuance Commitment.

Model 2 – The Impact of FIFO Working Arrangement on Personal Factors

As with model 1 above, we tested for common method bias similar to other research (e.g. Li, Feng, & Jiang, 2018). Harman's single factor test demonstrated that a single factor did not account for the majority of variance (32.74%) (Podsakoff et al., 2003). Given this, and our scale design being varied with different response options (Podsakoff et al., 2003), it is unlikely that the effects found are caused by common method bias.

Path Analysis for Model 2

As with the previous model, the even-time roster ratio was analysed separately from days on and days off. Assumptions of linearity, causal closure, and unitary variables were met (Wright, 1968; cited by Lessem, 2002). Paths were tested with maximum likelihood estimation because there were missing responses (Lleras, 2005; Tabachnick & Fidell, 2014).

Model 2(a) FIFO Impacts on Personal Factors with Days On and Days Off

Separated. A chi-square was significant ($\chi^2(9, n = 980) = 7.12, p = 0.625$), although this is known to be sensitive to large sample sizes (Hooper et al., 2008). Other fit indices demonstrated that the model fitted the data well (CFI = 1.00; NFI = 0.994; RFI = .98; and TLI = 1.005) and was a good approximation of the population (RMSEA = 0.00). The path diagram, including standardised estimates where non-significant pathways were removed, appears in Figure 10.

The preference for a different roster to the WFC pathway demonstrated a stronger pathway to mental health outcomes. Days on, days off, employee level, and years in FIFO did not have any significant relationships with other variables in the model so were removed. Co-worker support was significantly positively related to relationship quality, which was

negatively and weakly predictive of stress and depression. Weak negative relationships were demonstrated between RQ and preferring a different roster, as well as with WFC. The strongest positive relationships were between preferring a different roster with WFC and between WFC and depression, anxiety, and stress.

Model 2(b) FIFO Impacts on Personal Factors with Even-Time Roster Ratio. The model exploring even-time roster ratio indicated that even-time roster ratio had no significant relationships with other variables in the model. Therefore, it was removed from the model. As model 2(a) also had removed days on and days off, the resulting models were identical, and will be referred to simply as model 2 for the remainder of this thesis.

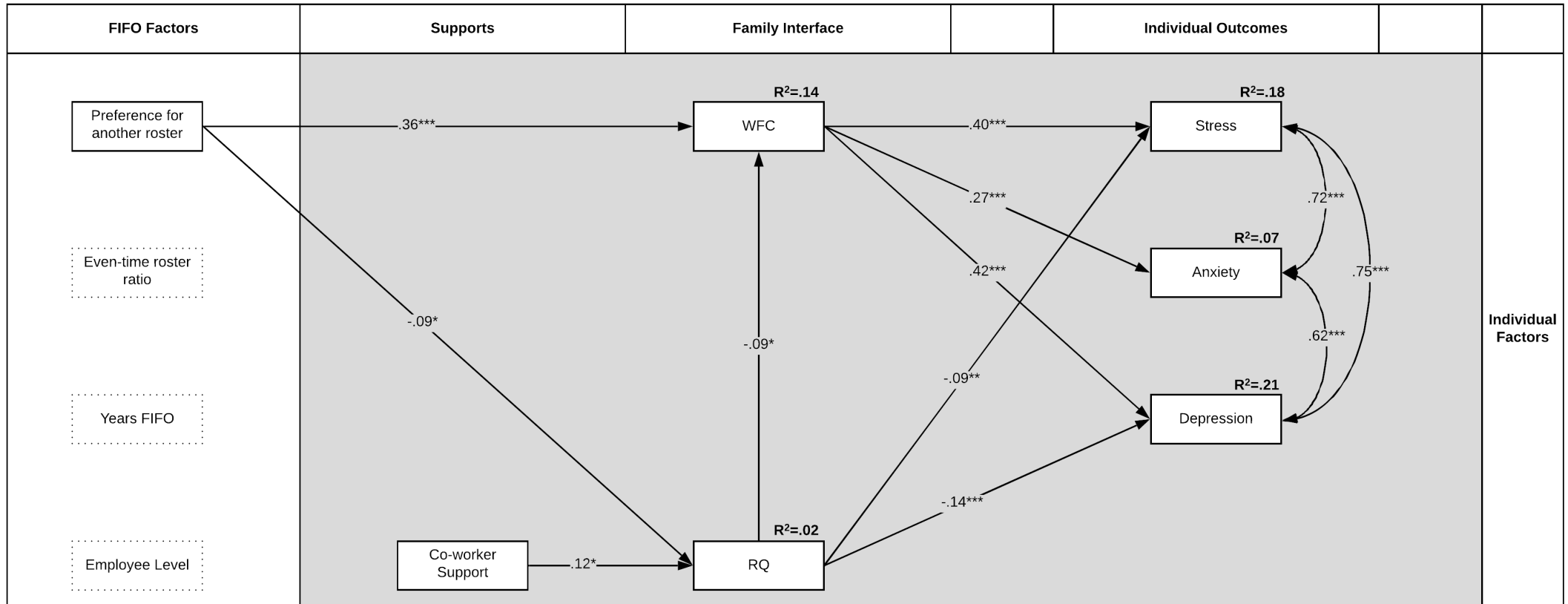


Figure 10. Model 2 showing standardised pathways.

NOTE: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$; WFC = Work Family Conflict, RQ = Relationship Quality.

Model 3 – The Impact of FIFO Working Arrangement on Work and Personal Factors***Path Analysis for Model 3***

Assumptions of linearity, causal closure, and unitary variables were met (Wright, 1968; cited by Lessem, 2002). Paths were tested with maximum likelihood estimation because there were missing responses (Lleras, 2005; Tabachnick & Fidell, 2014).

Model 3(a) Combined Work and Personal Factors with Days On and Days Off Separated. The chi-square was significant ($\chi^2 (56, n = 980) = 88.72, p = 0.003$); however, this is unreliable as an indication of fit given the large dataset (Hooper et al., 2008). Looking to other indicators, the model fit the data well (CFI = 0.99; NFI = 0.97; RFI = 0.94; and TLI = 0.98) and was a good approximation of the population (RMSEA = 0.024). The path diagram, including standardised estimates, appears in Figure 11.

In this model, increasing CC was predictive of poorer mental health outcomes. Co-worker support was no longer significantly related to any other variables and was removed from the model. A small amount of variance in relationship quality was predicted by PSS. Higher levels of anxiety, depression and stress were predicted by lower PSS and higher WFC. WFC was predictive of all individual and worker outcomes except NC. WFC was moderately predicted by preference for a different roster. Finally, mental health outcomes were not related to turnover intent.

This combined model explained an additional 8% variance for AC, an additional 7% for CC, as well as an extra variance explained for turnover intent (3%), WFC (2%), stress (3%), anxiety (3%), and depression (2%).

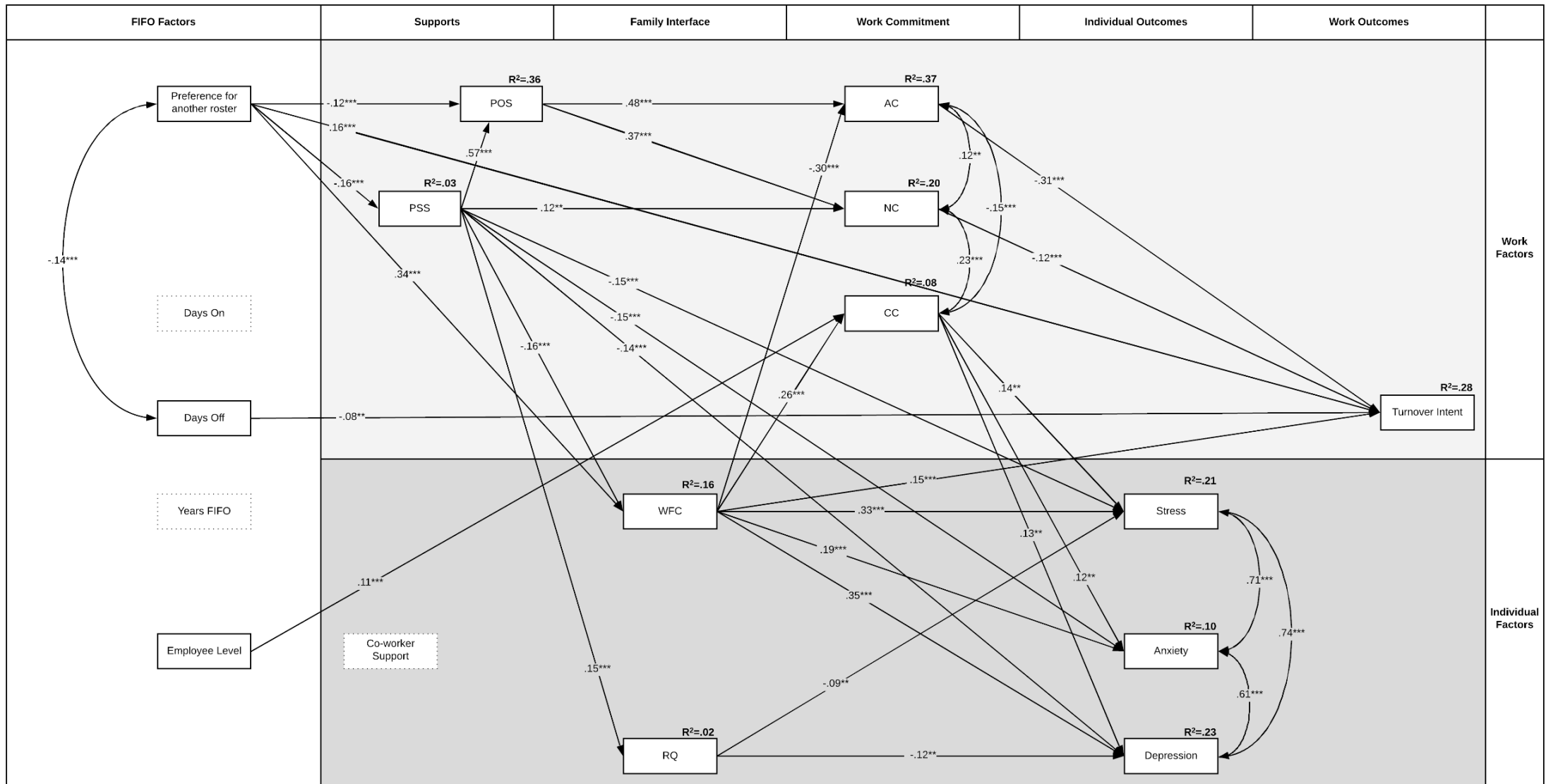


Figure 11. Model 3(a) showing standardised pathways and including days on and days off separately.

NOTE: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$; PSS = Perceived Supervisor Support, POS = Perceived Organisational Support, AC = Affective Commitment, NC = Normative Commitment, CC = Continuance Commitment, WFC = Work Family Conflict, RQ = Relationship Quality.

Model 3(b) Combined Work and Personal Factors with Even-Time Roster Ratio.

The combined model exploring even-time roster ratio had a significant chi-square (χ^2 (55, $n = 980 = 82.87, p = .009$); however, other indices indicated good fit for the model (CFI = 0.99; NFI = 0.97; RFI = 0.95; and TLI = 0.98) and demonstrated a good approximation of the population (RMSEA = 0.023). Figure 12 shows the path diagram with standardised estimates.

This model showed a weak positive relationship between even-time roster ratio with CC, and a weak negative relationship with turnover intent. The inclusion of even-time roster ratio increased the variance explained in CC by 1.4%. However, it did not change the variance explained in turnover intent, depression, anxiety, or stress.

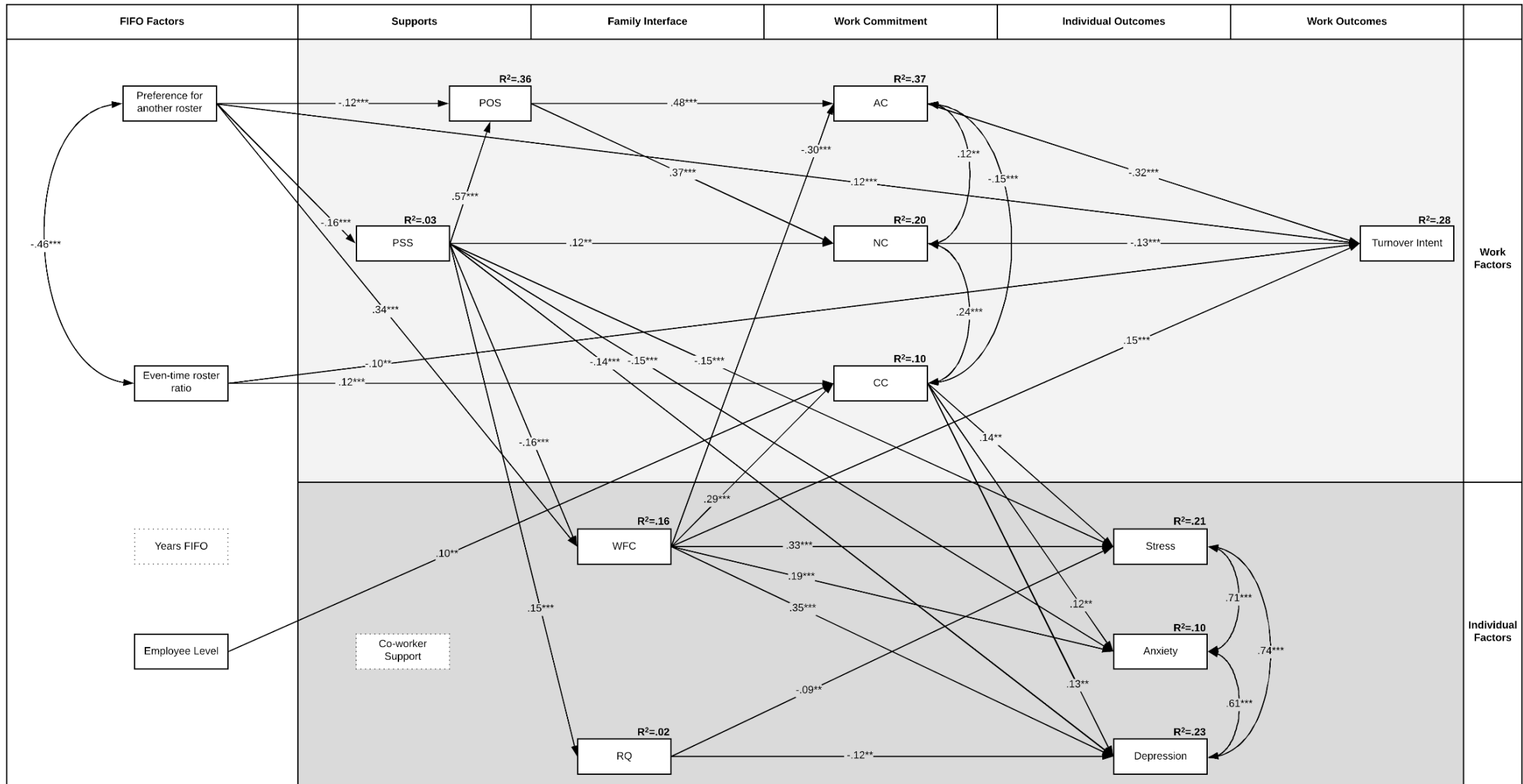


Figure 12. Model 3(b) showing standardised pathways and even-time roster ratio.

NOTE: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$; PSS = Perceived Supervisor Support, POS = Perceived Organisational Support, AC = Affective Commitment, NC = Normative Commitment, CC = Continuance Commitment, WFC = Work Family Conflict, RQ = Relationship Quality

Discussion

This thesis aimed to explore the impact of FIFO working arrangements on work and individual factors separately, and then combined. Correlations indicated that there were significant relationships between less even-time roster ratio (higher compression roster) and higher turnover intent, WFC, and depression, as well as between increased days on and increased WFC. Preference for another roster was highly correlated with a less even-time roster ratio, and weakly related to higher days on, as well as being related to lower PSS, POS, RQ, AC, and NC, and related to higher turnover intent, WFC, and poorer mental health outcomes. The correlations indicate there are significant relationships between work and personal factors, as well as with factors relating to FIFO working arrangements. The models explored these relationships further and demonstrated mental health was mostly predicted by WFC, which was largely predicted by roster preference; and organisational outcomes were largely predicted by perceived organisational support and WFC.

The models demonstrated good fit and accounted for a moderate amount of variance in the dependent variables. Days on and days off, as well as even-time roster ratio, contributed minimally to the models containing work variables, and the variance explained in the work and individual factors did not vary between the two, except CC increasing by 1.4% when roster ratio was included in the model. Preference for a different roster had the most significant relationship with WFC, which was predictive of both work and personal outcomes. The most influential pathway in model 1 was PSS to POS, impacting on AC, and subsequently turnover intent. Model 2 showed that preferring a different roster was related to WFC, which was linked to all three mental health outcomes. For the individual impacts, co-worker support had a weak relationship with RQ, but when expanded to model 3, co-worker

support was no longer significant, with PSS predicting RQ. Model 3 also suggests that preferring a different roster was related to perceptions of WFC for FIFO workers, and that their feelings of needing to stay in their FIFO job because they have no better option (CC) was related to poor mental health outcomes. WFC was also negatively associated with AC which in turn was negatively related to intent to leave their jobs. Interestingly, CC acted differently from the other types of commitment as it is not related to turnover intent but was positively associated with all three mental health outcomes.

The models showed that very few of the interactions were related to actual FIFO working arrangements; rather, they were related to preferences and perceptions and showed how work and individual factors are impacted by FIFO working arrangements. The models, limitations, and implications will be discussed further below.

Correlations

Shared variance in the path analyses means that some of the correlational relationships are not evident in the models; however, these are important to note. Roster preference was associated with both roster ratio (negatively) and days on (positively). This indicates that those who are on a less even-time roster, known as a high compression roster, are largely related to those who would prefer a different roster. More days on was weakly related to an increasing desire for a different roster. Further, people who preferred a different roster, and those with a less even-time roster ratio, were more likely to report that they wished to leave their job, albeit this relationship was weak.

Model 1 – The Impact of FIFO Working Arrangement on Work Factors

This thesis explored the relationship between FIFO work arrangements and employees' perceived support, commitment to the organisation, and turnover intent. As expected, we found that AC had a strong negative relationship with turnover intent, and that the pathways from preference for a different roster to PSS, POS, then AC and NC were the strongest paths leading to turnover intent.

Roster Ratio and Work Outcomes

Even-time roster ratio had a weak positive relationship with CC, where more even-time rosters were weakly linked to more organisational commitment based on not having a better alternative. There was also a weak negative relationship with turnover intent, indicating that the more even-time the roster was, the lower the turnover intent. Given much of the discourse around the impact of roster compression is in the context of mental health outcomes (e.g. Clifford, 2009; Education and Health Standing Committee, 2015), it is not surprising that roster ratio only had a weak impact on work factors.

Days On and Days Off With Work Outcomes

Contrary to the findings of McLaughlin (2017), there was a negative relationship, albeit small, between the number of days off and turnover intent. That indicates that employees value roster patterns with more days off when compared to other alternative jobs, leading to increased turnover, although it was only a small effect.

Work Outcomes Relating to Preference for a Different Roster

The preference for a different roster was positively associated with turnover intent, both directly and via negative relationships with PSS, POS, and AC. POS and PSS positively

influenced AC and NC, which in turn were negatively associated with turnover intent. While research has demonstrated the impact of roster choice on reducing WFC (Hanoa et al., 2011; Ljoså & Lau, 2009), it has been theoretically linked to stress (Karasek et al., 1998) and employee satisfaction (Bryar, 1996), however the impact on work factors had not been demonstrated in this population. Job control has been shown to have a moderate positive relationship with PSS and POS (Giorgi, Dubin, & Perez, 2016), so it would follow that an element of perceived control, through roster choice, may then positively influence POS and PSS. The model in this thesis shows that preference for a different roster did not appear to be directly related to a lack of alternative jobs (CC), or a sense of obligation to staying in their job (NC). Rather, this appeared to largely indirectly influence OC through negative relationships with PSS and POS which were positively related to AC and NC, which were subsequently negatively related to turnover intent. Thus, an employee's preference for a different roster may negatively influence how they view their organisation and their supervisor's support of their needs, decreasing their commitment to the organisation, and increasing their intent to leave. This is supported by OC literature which has shown that when employees experience a sense of control at work, it increases their OC (Brimeyer et al., 2010).

Employee Level

The employee level in the organisation was positively related to CC, albeit weakly. The higher in the organisational hierarchy an employee was, the higher their need to stay because of a lack of more appealing alternative jobs. Those employees who are lower in the organisational structure are more likely to have less commitment, which is consistent with the organisational commitment literature (e.g. Brimeyer et al., 2010; Levinson, 1978; Ornstein et al., 1989).

The results of this thesis suggests that the higher up in the organisation an employee is, the more likely they are to feel commitment only because of a lack of a better alternative (CC). This may be due to limited employment opportunities for more senior management levels. This is contrary to reports that some newer workers may feel trapped in FIFO because of the money, indicating higher CC (Vojnovic, Jacobs, et al., 2014).

The literature indicates that the more supported the supervisors feel, the more supportive of their staff they are (Wu et al., 2012) and that supervisors are sometimes viewed as representatives of their organisation's support (Kalemci Tuzun & Arzu Kalemci, 2012); however, this model did not find a significant relationship between organisational level and POS or PSS.

Time in FIFO

Adjustment to FIFO has been shown to be positively related to AC (Behr, 2012); however, years in FIFO was not related to any work or personal variables in this thesis and so was removed from the final model. The experience model in organisational commitment literature (Cohen, 1993) indicates that commitment should increase as a function of tenure; however, that was not supported in this thesis. It is possible that time in FIFO does not necessarily relate to levels of experience in people's careers. Furthermore, the transient and dynamic nature of FIFO work; that is, working for multiple organisations across different sites may limit the association with OC.

Perceived Supervisor Support and Perceived Organisational Support

The literature reports a strong positive relationship between POS and PSS, while recognising that they are separate and influence outcome variables individually (Burns, 2016). This thesis supports this strong relationship and also the requirement for separation of

the concepts. As outlined above, preference for a different roster largely led to a lower POS and PSS, which then led to lower AC and NC. Unsurprisingly, the more support an employee felt from their supervisor and organisation, the more they felt AC and NC.

PSS was strongly related to POS, which in turn positively impacted AC strongly, and similarly positively and moderately influenced NC. Increasing levels of perceived organisational support therefore appears to be key to retaining committed employees. Given the strong relationship between POS and PSS, it would seem that increasing POS can be achieved by increasing levels of supervisor support.

Interestingly, PSS was negatively associated with CC, or avoidance of costs of leaving, perhaps because of insecurity or feeling both unsupported and having no viable alternative, or perhaps due to a lack of confidence in obtaining a good reference for the next job. Although only a small effect was found in this thesis, it would be interesting to understand this influence with further research.

Affective Commitment

This thesis confirmed the results of earlier research whereby higher affective commitment was the strongest indicator of lower turnover intent (Jaros, 1997). AC was mostly positively influenced by perceived organisational support. Given the strong positive relationship between POS and PSS, it is important to consider that almost a third of the variance in AC is explained by POS and PSS combined. Because of the strong influence of higher AC in reducing turnover intent, it seems that it is important to strengthen employees' POS, via PSS or otherwise. If employees feel that they are supported and valued by their organisation (and supervisor), they are more likely to have a higher affective bond and are less likely to consider seeking employment elsewhere.

Normative Commitment

Feeling a sense of obligation to stay with one's organisation was weakly associated with turnover intent, whereby more felt obligation (NC) led to a lower turnover intent. This is similar to other research which found that increasing NC led to decreasing turnover intent (e.g. Ramalho Luz, Luiz de Paula, & de Oliveira, 2018). The current research showed AC to have a stronger relationship with turnover intent than NC; however, other research has found the opposite (Yao & Wang, 2006). Regardless, this may contribute towards reducing turnover intent by focusing on the NC antecedents such as onboarding and socialisation experiences, as well as congruence of values between the employee and organisation (McCormick & Donohue, 2016).

Continuance Commitment

As discussed previously, employee level was positively associated with CC. Furthermore, PSS was negatively associated with CC; however, CC was not predictive of turnover intent. In other words, a lower level in the organisation and more supervisor support, impacted workers' commitment based on a lack of better alternatives; however, they did not intend to resign from their job. Research has shown that employees sought jobs that pay for their contribution rather than viewing pay as recompense for poor working arrangements (Barrett, Bahn, Susomrith, & Prasad, 2014). When they were paid as compensation for poorer working arrangements, they still had the same salary expectations when applying for jobs with better working arrangements. These results indicate that participants may view their employment as a transactional relationship; however, in this case, they did not intend to leave their job.

Turnover Intent

Turnover intent is the best indication of actual turnover (Allen et al., 2010). Model 1 showed that a quarter of the variance in turnover intent was, in order of effect, influenced by AC, a preference for a different roster, NC, and fewer days off. Therefore, in order to reduce turnover, organisations should initially look to improve employee's AC and meeting roster preferences.

Implications of Model 1

Within the FIFO workforce, there is the commonly held belief that the employees will go where the money is (Things Bogans Like, 2010) and that there is no loyalty held towards the employer. Some research reports FIFO workers feeling trapped because of the money (Gardner et al., 2018). The results of this thesis indicate that this does not appear to be the case – in this context, at least. CC measures whether employees would look to change jobs if the employment conditions were better; if money was the sole motivating factor, it would be expected that there would be a significant relationship between CC and turnover intent. The results of this thesis show that CC was not a significant predictor of turnover intent. Instead, high turnover intent in FIFO employees was strongly linked to lower affective commitment towards the organisation, which is more of a sense of belonging and affective attachment. This is similar to results found in non-FIFO populations (Jaros, 1997).

In this thesis, the strongest direct pathways to reducing turnover intent were via improving AC and meeting roster preferences. Affective commitment antecedents established in the literature include perceived organisational support, job characteristics, self-efficacy, and purpose (McCormick & Donohue, 2016). As the strongest of these, POS can be improved by increasing PSS, and research suggests other work-related factors such as

recreational facilities at work can also increase POS (Perring, Pham, Snow, & Buys, 2014). Interestingly, it wasn't the roster itself that was most influential; rather, it was the employees' preference for the roster, which is reflective of other research findings (Bryar, 1996).

If turnover intentions are to be reduced, organisations could offer employees a choice of roster patterns and, more importantly, strengthen the POS that the employees feel, which in turn could be expected to strengthen the AC of the employees. The more that the employees feel supported by the organisation, and the more that they feel the organisation has invested in them, the lower their intent to leave that organisation.

Model 2 – The Impact of FIFO Working Arrangements on Personal Factors

This thesis explored the relationships between FIFO work arrangements, co-worker support, relationship quality, perceived WFC, and employees' reported psychological outcomes. As expected, we found that preference for a different roster was positively related to participants' perceived WFC, which was positively related to depression, stress, and anxiety.

Even-Time Roster Ratio and Personal Impacts

As outlined in the literature, the impact of roster ratio on negative mental health outcomes has been raised as an area of concern and that more even-time roster ratios are considered to be better for mental health. High roster compression, where there is greater disparity between days on and days off, has been purported to lead to higher stress, anxiety, and depression severity (e.g. Clifford, 2009; Education and Health Standing Committee, 2015). Despite the correlation indicating a weak relationship with depression, model 2 found that even-time roster ratios had no relationship with stress, anxiety, or depression severity levels, and it was removed from the model. This is, however, inconsistent with the literature.

One possible reason for this lack of consistency between this and past studies might be that this thesis is likely to be more representative because of the breadth and size of the sample, and that when roster preference was included, the relationship with the roster itself was not as relevant to mental health outcomes.

Contrary to suggestions in the literature, the model found that even-time roster ratio was not related to perceived WFC. The literature outlined reasons for employees preferring an even-time roster including those relating to WFC; for example, having more time to spend with their families as well as time to complete jobs around the home (Blackman et al., 2014; Welters et al., 2013) which is consistent with the correlation results. It was not, however, consistent with the model. The model's variance in WFC was accounted for by roster preference, rather than even-time roster ratio. However, as Houghton (1993) suggested, in addition to the amount of time at home, consideration should also be given to the quality of time as well as individual differences in needs.

Days On and Days Off with Personal Impacts

When viewed as separate variables, neither were significantly predictive of personal outcomes in the model. Interestingly, in the model, days on and days off were not related to mental health outcomes, nor to relationship quality. The literature indicates that longer rosters, specifically days on, led to increased perceived WFC (Gent, 2004). However, while the correlations in this thesis confirmed a relationship between these two variables, model 2 did not support this assertion similar to the roster-ratio model, indicating that the WFC variance in the model was accounted for by roster preference. This again lends support to an argument for individual differences in rostering needs.

Personal Impacts of Preference for a Different Roster

Preference for a different roster was related to relationship quality and work family conflict. There was a weak but significant indication that when participants preferred a different roster, their relationship quality was reduced, and subsequently depression and stress severity increased. The literature suggests that relationships may be influenced by time together and time apart; however, this model indicates that there is not a blanket rule for any number of days on or days off; rather, it is more individually based and weakly influenced by preference for a different roster. Research has found that too much time spent together may exacerbate problems in couples who are experiencing relationship difficulties (Haslam-McKenzie & Hoath, 2014) and some couples report that time apart may in fact strengthen the relationship (Pocock et al., 2001). This thesis shows a weak relationship between being desirous of a different roster and having poorer relationship quality.

The model indicated that preferring a different roster had a moderate positive influence on increasing WFC and subsequently more negative mental health outcomes. This supports Karasek's JDC model where higher levels of demand, and lower levels of control, lead to situations of high strain (Häusser et al., 2010). Where the job puts demands on the workers, and the workers would prefer a different roster but have no control over it, this would lead to strain. This is line with other research which found that more control over shifts led to lower perceived WFC (Ljoså & Lau, 2009).

Employee Level

As indicated previously, an employee's level in an organisation can impact the way they feel towards the organisation, and because the pressures and roles vary, increasing levels within an organisation may negatively impact personal outcomes. Previous research found

that organisational level can negatively influence reported levels of stress (Kim et al., 2009). It was hypothesised that this may extend to the level of an employee within the organisation, whereby higher-level employees may have more work demands (Kim et al., 2009) and therefore more stress and mental health outcomes. This, however, was not supported in the data. There was no significant relationship between employee level and any mental health outcomes.

Time in FIFO

When considering adjustment (Behr, 2012), and perhaps longer-serving employees being those who perhaps preferred to remain in FIFO working arrangements, it was considered whether there may have been a connection between time in FIFO and relationship quality, WFC, and mental health outcomes. The model fit indicated time in FIFO did not significantly influence any of these variables, so it was removed from the model. This finding was also supported by Vojnovic and Bahn (2015) who also found that length of time in FIFO was not related to depression, anxiety, or stress. This may be because there are also individual differences with regards to how well people adjust and adapt to the unfamiliar (Ramalu, Rose, Uli, & Samy, 2010).

Relationship Quality

Given the small negative influence that preference for another roster had on relationship quality, it is perhaps unsurprising that relationship quality only weakly negatively influenced the perceived conflict between work and home. The results of this thesis suggest that relationship quality is largely influenced by other factors outside of FIFO working arrangements. This is similar to other research that found that there was no difference between divorce rates in those with FIFO working arrangements compared with

employees with non-FIFO working arrangements (Dittman et al., 2016; Greer & Stokes, 2011). There are indications that, in general, FIFO workers have positive relationships (Saxinger, 2016) and that FIFO working arrangements do not cause relationship problems (Clifford, 2009) but perhaps may exacerbate existing difficulties (Haslam-McKenzie & Hoath, 2014). Further supporting this is the weak negative relationship that was found in this thesis between relationship quality and depression and stress. It is understandable that relationship difficulties may be linked to depressive feelings and increased stress severity.

Depression, Anxiety, and Stress

Between 7% and 21% of the variance in depression, anxiety, and stress severity was explained by high WFC and, to a lesser extent, poor relationship quality also explained some variance in depression and anxiety. The effect of WFC on negative mental health outcomes is weak for anxiety, but moderate for stress and depression. The way we perceive stressors, such as the conflict between our work and home lives, can exacerbate predispositions to affective disorders (Hankin et al., 2004). It may be that this additional variable is sufficient to push some workers over their internal threshold and cause depression, anxiety, or stress (Lewinsohn et al., 2001).

Using the JDC model (Karasek et al., 1998), when proposing model 2, it was argued in this thesis that demands could include FIFO working arrangements, and subsequent perceived WFC. Higher levels of demand, and lower levels of control, lead to situations of high strain (Häusser et al., 2010). Therefore, if a worker feels that their working arrangements are a strain, and they are not able to control those FIFO arrangements, this is likely to lead to stress outcomes. Although there were weak positive correlations between roster preference and mental health outcomes, model 2 found that preference for another roster, or a lack of control over their roster, was not directly associated with mental health outcomes. However,

it was positively related to whether or not employees perceived a strain or conflict between work and family, thus supporting the JDC model's applicability for FIFO working arrangements. This lack of control and perceived high WFC was then associated with negative mental health outcomes.

Social Support

Subsequent research using the JDC model (Karasek, 1998) incorporated social support in as a protective factor (Johnson & Hall, 1988). A lack of social support can lead to feelings of isolation (Taha & Caldwell, 1993) and this has been reported previously in FIFO workers (Barclay et al., 2014; Gardner et al., 2018; Lovell & Critchley, 2010; Torkington et al., 2011). Research has shown that feeling isolated from social support can negatively impact mood, leading to depression (Cacioppo et al., 2006).

Social support in FIFO has been shown to significantly reduce stress resulting from WFC in the literature (McTernan et al., 2016). Research has suggested that there is a kinship gained from social support at work (Gardner et al., 2018; Misan & Rudnik, 2015) that may be a protective factor for mental health difficulties. However, in model 2, co-worker support had no relationship with any mental health outcomes.

It has been argued that higher levels of social support may reduce the felt conflict between work and family (WFC; Vojnovic, Michelson, et al., 2014); however, this model did not find a significant relationship between co-worker support and WFC, rather finding a weak positive relationship with co-worker support and relationship quality. This indicated that perhaps concerns about personal relationships may have been allayed by co-workers when workers were away from home (Lau et al., 2012).

Implications of Model 2

In a male-dominated population, FIFO workers are likely to also feel pressure to conform to a macho stereotype, thus not seeking help with mental health issues (Gardner et al., 2018). The data in this thesis suggested there was a weak relationship between being male and having worse mental health outcomes. There have been varying accounts of mental health difficulties in FIFO workers using differing methodologies and samples (Barclay et al., 2014; Bowers et al., 2018; Vojnovic & Bahn, 2015; Weeramanthri & Jancey, 2013); therefore, this thesis sought to examine whether FIFO working arrangements impacted on mental health difficulties.

Research suggests that a more even-time roster ratio leads to better mental health outcomes (Clifford, 2009). When rostered days on and off are more even-time, the research suggests that mental health outcomes would be better and that higher compression rosters would lead to an increased severity of depression, anxiety, and stress. However, even-time roster ratio was only significant with depression in the correlational analysis. Within the model, there was no significant relationship between even-time roster ratio and mental health outcomes, suggesting that it is not the answer to improving mental health outcomes in FIFO work. Conversely, the model suggests that roster preference and perceived WFC are key.

Preference for another roster was positively related to a perceived WFC, which was the strongest relationship with increased depression, anxiety, and stress severity. Allowing employees an opportunity to choose a roster is likely to improve the perception of WFC and indirectly lead to better mental health outcomes for workers. The results from this thesis can help inform organisational interventions that might reduce the mental injury risk for employees.

Model 3 – Combined Work and Individual Impacts

Role separation has been found in qualitative research where FIFO workers reported having two different lives, different personalities, different roles, and different responsibilities (Gardner et al., 2018). However, spillover theory (Frone et al., 1992) posits that one domain will impact on the other. This thesis found that work and non-work factors were interrelated.

Preferring a different roster was moderately and positively related to perceptions of WFC, which was negatively related to AC, and positively to CC. AC was negatively related to turnover intent and CC was positively related to mental health outcomes.

As discussed previously, AC and NC appear to be different from CC in that AC and NC are the only two to have a positive relationship with positive organisational behaviours (Meyer et al., 2002). Unsurprising then is the finding in model 3 that AC and NC were negatively related to turnover intent; however, this thesis appears to be the only research showing that CC is positively related to poorer mental health outcomes. Given Becker's side-bet theory (Becker, 1960; Meyer & Allen, 1984) which refers to an increase in CC because of an increase of investments, it may mean workers are feeling trapped, and that WFC may contribute to that feeling. However, rather than it leading to a turnover intent, it is related to poorer mental health outcomes or potentially indicating that poorer mental health outcomes mean the workers do not want to risk leaving.

Previous research has suggested that stress and mental health outcomes are negatively related to employees' OC and intent to stay in their job (Kamau, Medisauskaite, & Lopes, 2015). However, this model found that only CC was related to mental health and that mental health did not have a significant relationship with turnover intent.

This model suggested that supervisor support can increase relationship quality; perhaps the support helps to ease any concerns about personal relationships when workers are away from home (Lau et al., 2012). The relationship was weak, however, suggesting while they may help some people, they do not influence all workers' personal relationships.

Employee level of seniority was positively related to CC, which may mean that those employees who are higher in FIFO organisations are feeling like they are trapped and lacking a better alternative.

While organisational support has generally been researched alongside supervisor support as one of POS's antecedents (Eisenberger et al., 2002), other researchers have included co-worker support as part of a broader interpretation of POS (Leveson & Joiner, 2004). The results of the current study reveal that co-worker support was not significantly related to POS or PSS. Research suggests that co-worker support is positively related to AC (Leveson, Joiner, & Bakalis, 2010); however, model 3 found no significant relationship between co-worker support and AC. Further, research has found that co-worker support is related to stress in mining employees (McTernan et al., 2016); however, co-worker had no significant relationships in model 3.

POS has been shown to be influential in how people handle work-family conflict (Frone et al., 1992; Kossek et al., 2011; Pan & Yeh, 2012). In the current study, POS and PSS were both negatively correlated with WFC. However, model 3 reported that only PSS was related to lower WFC, meaning that the more supported employees felt by their immediate supervisor, the less conflict they felt between home and work. This indicates that there may be shared variance between POS and PSS. According to Eisenberger et al. (2002), antecedents of POS are PSS, job conditions, and perceived fairness. PSS is based around the

extent to which a supervisor cares, helps, values, and invests in their employees (Gordon et al., 2019). As such, it could be inferred that it is the caring, helping, and valuing employees that is more relevant to employees' perceived WFC than fairness and job conditions.

When considering the impact that POS and PSS have on a worker's mental health, research suggests that it should have a negative relationship in that they may be a protective factor (Beehr et al., 2003; Campbell et al., 2013; Gibson et al., 2009; Willemse et al., 2012). For example, research suggests that PSS reduces the risk of depression, anxiety (Rugulies et al., 2006; Sinokki et al., 2009), and stress (Hämmig, 2017). Similarly, Model 3 also found that PSS was negatively related to all three mental health outcomes. However, the correlations indicated that POS was negatively related to depression, anxiety, and stress. Again, this indicates some shared variance between POS and PSS for anxiety and depression.

Implications of Model 3

FIFO working arrangements are related to how workers feel about the amount of support they perceive from their supervisors and their organisations, as well as the amount of WFC they report. Having a preference for another roster was directly related to higher turnover intent, as was a lower number of days off, albeit weakly.

In model 2, the hypothesis based on previous research suggesting that a more even-time roster ratio would lead to better mental health outcomes (Clifford, 2009) was tested. Correlations indicated that more even-time roster ratios were related to higher CC, as well as lower turnover intent, depression, and WFC. Higher numbers of days on were positively correlated with WFC, indicating more days away from their family were translated into increased WFC. However, model 2 found that there was no significant relationship between any of the variables and even-time roster ratio, or with days on or off. Model 3, however,

showed that fewer days off and higher compression rosters (less even-time) were related to higher turnover intent. Higher compression rosters were also predictive of decreasing CC, which in turn was related to better mental health outcomes. This indicates that more even-time rosters, via CC, may negatively impact mental health. Perhaps employees with even-time rosters feel that they will not be able to find similar even-time ratio rosters elsewhere, thereby feeling trapped and increasing negative mental health risk. Given the cross-sectional nature of this thesis, inferences regarding causation are not possible and is, therefore, a suggestion for future research.

Model 3 demonstrates the difference between the types of organisational commitment and their impact on organisational and personal outcomes. As discussed previously, research indicates a difference between high AC and NC which are both related to positive organisational outcomes (Meyer et al., 2002), including lower turnover intent, and high CC which the current research has shown is not related to turnover, but instead to poorer mental health outcomes. As the golden handcuffs (Vojnovic, Jacobs, et al., 2014) based on monetary investments align with Becker's side-bet theory explanation of CC (Meyer & Allen, 1984), it may be interpreted that the golden handcuffs may lead to a decrease in mental health outcomes; however, this again warrants future longitudinal research on these concepts to be able to determine causation.

Seemingly central to model 3 is WFC. As discussed previously, perceived WFC has been alluded to as a reason to reduce working times historically (Whittelsey & Hadley, 1901). It is unsurprising, therefore, to find that WFC mediates the relationship between preference for another roster with some organisational and individual outcomes. The model shows that a preference for another roster has a direct effect on increasing WFC, which has a negative effect on AC, and positive direct effects on CC, turnover intent, stress, anxiety, and

depression. The effect size indicates that WFC has strong relationships between FIFO working arrangements, work factors, and individual factors. This would imply that organisations should primarily focus on decreasing WFC as well as increasing POS and PSS. This may be influenced in part by employees' roster preferences or a sense of control over their roster. The impact of focusing on improving these is likely to have positive impacts on organisational and personal outcomes.

Overall FIFO Work and Personal Impacts Conclusion

Strengths and Limitations

The results and conclusions of this thesis should be interpreted in the context of the study's limitations. First, although SEM allows us to make causal assumptions in construct relationships, the cross-sectional methodology utilised in the current study does not allow definitive causal statements to be made on the relationships observed. For example, POS cannot be concluded to cause affective or normative commitment, only inferred based upon the existing empirical literature and theoretical underpinnings. Previous longitudinal research (Eisenberger et al., 2001) on the direction of construct relationships tested in this thesis does suggest the causal inferences made here are likely. However, longitudinal research is needed to test the relationships outlined here.

A smaller response rate regarding mental health questions may have indicated survey fatigue as the items were at the end of the survey. An alternative explanation is that it may be indicative of one of the difficulties in this "macho" culture where there is a reluctance to discuss mental health issues (Henry et al., 2013). Research with more focused questions in a longitudinal design may help clarify this further.

Another limitation is that the current research used a proxy measure of employee turnover; that is, being turnover intent. This was due to both time constraints and practicality. Therefore, the current research cannot definitively conclude that increased organisational commitment will necessarily lead to reductions in actual turnover. However, as turnover intent is one of the best predictors of actual turnover (Carsten & Spector, 1987; Chew & Chan, 2008; Steel & Ovalle, 1984; Tett & Meyer, 1993), it is highly likely that reductions in actual turnover will also be observed if recommendations are implemented. Nonetheless, turnover intent itself is also likely to be of interest to organisations as there are significant relationships with decreased organisational citizenship behaviours and an association with decreased productivity (Griffeth, Hom, & Gaertner, 2000).

Finally, caution should be used in generalising the current results to the FIFO workforce as a whole as the sampling method used may not have facilitated a representative sample. For example, the current sample appears to contain a slightly higher percentage of mining representatives than might be expected in the broader FIFO workforce, and given the differing sized groups of industry representation, this thesis was unable to explore this further. These differences may therefore have influenced the findings in this thesis.

The timing of this thesis meant that data collection predated much of the media coverage regarding the negative impact of FIFO on mental health, and it also predated the parliamentary enquiry into FIFO mental health report (Education and Health Standing Committee, 2015). This was the largest sample of FIFO research at the time it was collected. Research that followed the parliamentary enquiry on the impact of FIFO on mental health, where mental health in FIFO was an explicit focus, may not necessarily be representative of the larger FIFO population given the greater media focus on mental health in FIFO (e.g. Parker et al., 2018). Because the research for this thesis had greater breadth, and data

collection for this thesis pre-dated much of the media attention around FIFO and mental health outcomes, the sample is unlikely to have been skewed by any motivation involving mental health.

Given the large sample size, it exceeds the minimum recommended ratio for path analyses of 10 participants for every 1 parameter, and even exceeds the ideal ratio of 20 to 1 (Suhr, 2008). Similarly, post hoc g^* power analysis indicates that for a moderate effect size and an error probability of .05, the current sample size has a power of 1.0 for correlational calculations (Faul et al., 2009). This indicates that the sample size is more than sufficient to make reliable inferences from the analyses.

Future Research

Expanding the combined model to include other known psychosocial risks may give a more comprehensive understanding of the impacts of the interaction between work and home in this population. Antecedents of AC have been shown to include other work factors (Ross & Altmaier, 1994), such as role clarity, that have been shown to influence mental health outcomes (Allen & Meyer, 1990; Schmidt, Roesler, Kusserow, & Rau, 2014). Looking at these other work-related wellbeing factors in a FIFO sample, however, may clarify the extent to which these work factors are problematic, if they are consistent across FIFO work, or if they vary by industry or individual worksite.

In further analysing the impact of FIFO on mental health, perhaps research could look at the belongingness and burdensomeness felt by FIFO workers. These two psychological states are described in the emerging interpersonal-psychological theory of suicidal behaviour (Joiner, 2009). Given that this thesis found some support for interpersonal relationships - namely supervisor support - and mental health outcomes, and given the link made by the state

inquiry (Education and Health Standing Committee, 2015) between FIFO and higher suicide rates, it would be pertinent to explore this theory further in the FIFO context.

While the current research focused on working arrangements unique to FIFO, challenges with sleeping have been reported in this population previously (Barclay et al., 2014; Torkington et al., 2011). This is particularly relevant as research shows that the length of sleep when separated from partners has been shown to decrease (Diamond et al., 2008). Given a lack of quality sleep impacts on mood (Riedy et al., 2018; Shattuck & Matsangas, 2018), and shift work disorders and mental health outcomes are significantly related (Booker et al., 2019), it may be that the impact of FIFO working arrangements on mental health outcomes is exacerbated by night shifts. Previous research has found that shift workers have more diagnosed mental illnesses than FIFO workers (Weeramanthri & Jancey, 2013); however, it would be interesting to explore the prevalence of shift workers with FIFO working arrangements. This may help to elucidate the impact of FIFO working arrangements independently from the combination of shift work and FIFO working arrangements.

Alcohol and other drug use were not included in this thesis as they did not appear to be directly related to the FIFO working arrangements; however, their interaction with negative mental health outcomes may be an area for future research (Education and Health Standing Committee, 2015). Research has shown that FIFO workers drink more, and more frequently, than both shift workers and other employment types (Goldenberg, Shoveller, Koehoorn, & Ostry, 2010; Weeramanthri & Jancey, 2013). However, in Russia, long-distance commuting did not necessarily lead to greater alcohol use (Saxinger, 2016) and it largely depended on individual characteristics. Adding further weight to this, Tynan et al. (2017) found that alcohol use in mining workers was contingent on age, sex, smoking status, previous alcohol and drug problems, needing money, and having higher psychological

distress. Another factor influencing alcohol use was where people worked, underground or above ground, suggesting a contextual influence. Further research could explore the extent to which FIFO workers drank before, during, and after FIFO work and if location has an impact on it. This will enable inferences to be made regarding the impact of FIFO on the use of alcohol, and further understand drinking motivation.

Given that there are a large proportion of workers who do not experience difficulties related to the FIFO working arrangements, future research in this area could focus on an enhancement model, rather than a conflict model (Warner & Hausdorf, 2009). The enhancement model is where the spillover from work to family and vice versa focuses on positive elements such as competence, relatedness, and autonomy, as in self-determination theory (Ryan & Deci, 2008).

Conclusion

It has been suggested in the literature that workers might feel that they need to emphasise the negatives of the work arrangements in order to justify their continued higher remuneration (Saxinger, 2016). However, FIFO workers are a diverse group that is far from being homogenous (Saxinger, 2016) so it is more likely that there are some who experience negative outcomes. Because of this diversity, understanding the relationship between FIFO working arrangements and organisational and personal outcomes is more useful than merely citing prevalence of negative outcomes. Only through understanding this relationship can we move the conversation beyond merely taking stock, into the realm of prevention.

This is the first study to look at a combined model of work and personal outcomes in a FIFO sample. It found that AC and NC were related to organisational outcomes, whereas CC was related to mental health outcomes. Further, perceived WFC, and to a lesser extent

POS and PSS, is central to understanding work and personal impacts of FIFO working arrangements and, in particular, roster preference. Additionally, poorer relationship quality was weakly related to more WFC and higher depression; however, when put into model 3, it was not related to the roster or WFC and had no relationship to OC or turnover intent. This supports the research showing that FIFO is not a significant influence in relationship breakdowns (Bradbury, 2011; Clifford, 2009; Dittman et al., 2016; Greer & Stokes, 2011; Saxinger, 2016; Sibbel, 2010).

This thesis shows that preference for a roster has a positive relationship with both organisational and personal factors. This individualisation reinforces Karasek's demands-control model (Karasek, 1998), where control over roster enables employees to balance the demands of FIFO working arrangements. This thesis has shown a preference for another roster was negatively related to the amount of support employees felt from their organisation, which was positively related to them feeling more affective commitment and less desire to leave. It was also positively related to perceived work family conflict and consequently increased mental health difficulties.

The correlations indicated that there was a relationship between more even-time rosters and higher WFC, and more days on and less stress. When looking at model 2, neither roster ratio nor days on were related to mental health outcomes; however, when viewed as an holistic model in model 3(b), the relationship between a higher compression roster (less even-time roster ratio) and poor mental health outcomes is via CC, lending support to the notion of feeling trapped, resulting in poor mental health outcomes (Vojnovic, Jacobs, et al., 2014).

By allowing employees some choice in their rosters, thereby decreasing perceived WFC, increasing perceived organisational support by demonstrating the organisation values

their employees, and increasing the extent to which an employee feels their supervisor cares, helps, values, and invests in them (Gordon et al., 2019), it is likely to reduce turnover and improve mental health outcomes. Reducing employees' sense of continuance commitment, or perhaps monetary investments, may be helpful in improving mental health outcomes. Beyond this thesis, interventions based on the enhancement model of spillover theory could lead to a reinforcement of the positive elements of a FIFO working arrangement.

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Appendix A – Predicted relationships

Model 1 (a)

Preference for another roster	–	POS	–	Negative relationship
		PSS	–	Negative relationship
		Days On	–	Positive relationship
		Days Off	–	Negative relationship
		Turnover Intent	–	Positive relationship
		Years FIFO	–	Negative relationship
Days On	–	AC	–	Negative relationship
		PSS	–	Positive relationship
		Days Off	–	Positive relationship
		Employee Level	–	Negative relationship
		NC	–	Negative relationship
		CC	–	Negative relationship
Days Off	–	POS	–	Positive relationship
		Turnover Intent	–	Negative relationship
		CC	–	Positive relationship
		Employee Level	–	Negative relationship
Years FIFO	–	Employee Level	–	Positive relationship
		AC	–	Positive relationship
		NC	–	Positive relationship
		CC	–	Negative relationship
Employee Level	–	AC	–	Positive relationship
		Turnover Intent	–	Positive relationship
		NC	–	Positive relationship

		CC	–	Negative relationship
POS	–	AC	–	Positive relationship
		NC	–	Positive relationship
		CC	–	Negative relationship
		PSS	–	Positive relationship
PSS	–	AC	–	Positive relationship
		NC	–	Positive relationship
		CC	–	Negative relationship
AC	–	Turnover Intent	–	Negative relationship
		NC	–	Positive relationship
		CC	–	Negative relationship
Turnover intent	–	NC	–	Negative relationship
		CC	–	Positive relationship
NC	–	CC	–	Positive relationship

Model 1 (b)

Preference for another roster	–	POS	–	Negative relationship
		PSS	–	Negative relationship
		Turnover intent	–	Positive relationship
		Even-time Roster	–	Negative relationship
		Years FIFO	–	Negative relationship
Even-Time Roster	–	POS	–	Positive relationship
		Turnover intent	–	Positive relationship
		AC	–	Positive relationship

			NC	–	Positive relationship
			CC	–	Negative relationship
			Years FIFO	–	Positive relationship
			Employee Level	–	Negative relationship
Years FIFO	–		AC	–	Positive relationship
			NC	–	Positive relationship
			CC	–	Negative relationship
			Employee Level	–	Positive relationship
Employee Level	–		AC	–	Positive relationship
			Turnover Intent	–	Negative relationship
			NC	–	Positive relationship
			CC	–	Negative relationship
POS	–		PSS	–	Positive relationship
			AC	–	Positive relationship
			NC	–	Positive relationship
			CC	–	Negative relationship
PSS	–		AC	–	Positive relationship
			NC	–	Positive relationship
			CC	–	Negative relationship
AC	–		NC	–	Positive relationship
			CC	–	Negative relationship
			Turnover intent	–	Negative relationship
NC	–		Turnover Intent	–	Negative relationship
			CC	–	Positive relationship

CC – Turnover Intent – Positive relationship

Model 2 (a)

Preference for another roster – WFC – Positive relationship
 RQ – Negative relationship
 Days On – Positive relationship
 Days Off – Negative relationship
 Years FIFO – Negative relationship

Days On – WFC – Positive relationship
 Stress – Positive relationship
 Anxiety – Positive relationship
 Depression – Positive relationship
 RQ – Negative relationship
 Co-worker support – Positive relationship
 Days off – Positive relationship
 Employee Level – Negative relationship

Days Off – WFC – Negative relationship
 Stress – Negative relationship
 Anxiety – Negative relationship
 Depression – Negative relationship
 RQ – Positive relationship
 Co-worker support – Positive relationship
 Employee Level – Negative relationship

Years FIFO – WFC – Negative relationship
 Co-worker support – Positive relationship
 RQ – Positive relationship
 Employee Level – Positive relationship

Employee Level	–	Co-worker support	–	Negative relationship
		Stress	–	Positive relationship
		RQ	–	Positive relationship
Co=Woke Support	–	WFC	–	Negative relationship
		RQ	–	Positive relationship
WFC	–	Stress	–	Positive relationship
		Anxiety	–	Positive relationship
		Depression	–	Positive relationship
		RQ	–	Negative relationship
RQ	–	Stress	–	Negative relationship
		Anxiety	–	Negative relationship
		Depression	–	Negative relationship
Stress	–	Anxiety	–	Positive relationship
		Depression	–	Positive relationship
Anxiety	–	Depression	–	Positive relationship

Model 2 (b)

Preference for another roster	–	WFC	–	Positive relationship
		RQ	–	Negative relationship
		Even-Time roster	–	Negative relationship
		Years FIFO	–	Negative relationship
Even-Time Roster Ratio	–	WFC	–	Negative relationship
		Stress	–	Positive relationship

		Anxiety	–	Positive relationship
		Depression	–	Positive relationship
		Co-Worker Support	–	Positive relationship
		RQ	–	Positive relationship
		Years FIFO	–	Positive relationship
		Employee Level	–	Negative relationship
Years FIFO	–	WFC	–	Negative relationship
		RQ	–	Positive relationship
		Co-Worker Support	–	Positive relationship
		Employee Level	–	Positive relationship
Employee Level	–	Stress	–	Positive relationship
		RQ	–	Positive relationship
		Co-Worker Support	–	Negative relationship
WFC	–	Co-Worker Support	–	Negative relationship
		RQ	–	Negative relationship
		Stress	–	Positive relationship
		Anxiety	–	Positive relationship
		Depression	–	Positive relationship
Co-Worker Support	–	RQ	–	Positive relationship
		Stress	–	Negative relationship
		Anxiety	–	Negative relationship
		Depression	–	Negative relationship
RQ	–	Stress	–	Negative relationship
		Anxiety	–	Negative relationship
		Depression	–	Negative relationship

Stress	–	Anxiety	–	Positive relationship
		Depression	–	Positive relationship
Anxiety	–	Depression	–	Positive relationship
Model 3 (a)				
POS	–	WFC	–	Negative relationship
		Co-Worker Support	–	Positive relationship
		RQ	–	Positive relationship
		Stress	–	Negative relationship
		Anxiety	–	Negative relationship
		Depression	–	Negative relationship
PSS	–	WFC	–	Negative relationship
		RQ	–	Positive relationship
		Stress	–	Positive relationship
		Anxiety	–	Negative relationship
		Depression	–	Positive relationship
Co-Worker Support	–	AC	–	Positive relationship
		NC	–	Positive relationship
		CC	–	Positive relationship
WFC	–	AC	–	Negative relationship
		NC	–	Positive relationship
		CC	–	Positive relationship
		Turnover Intent	–	Positive relationship
AC	–	Stress	–	Negative relationship

		Anxiety	–	Negative relationship
		Depression	–	Negative relationship
NC	–	Stress	–	Negative relationship
		Anxiety	–	Negative relationship
		Depression	–	Negative relationship
CC	–	Stress	–	Positive relationship
		Anxiety	–	Positive relationship
		Depression	–	Positive relationship
Turnover intent	–	Stress	–	Positive relationship
		Anxiety	–	Positive relationship
		Depression	–	Positive relationship
Model 3 (b)				
POS	–	WFC	–	Negative relationship
		Co-Worker Support	–	Positive relationship
		RQ	–	Positive relationship
		Stress	–	Negative relationship
		Anxiety	–	Negative relationship
		Depression	–	Negative relationship
PSS	–	WFC	–	Negative relationship
		RQ	–	Positive relationship
		Stress	–	Positive relationship
		Anxiety	–	Negative relationship
		Depression	–	Positive relationship
Co-Worker Support	–	AC	–	Positive relationship

		NC	–	Positive relationship
		CC	–	Positive relationship
WFC	–	AC	–	Negative relationship
		NC	–	Positive relationship
		CC	–	Positive relationship
		Turnover Intent	–	Positive relationship
AC	–	Stress	–	Negative relationship
		Anxiety	–	Negative relationship
		Depression	–	Negative relationship
NC	–	Stress	–	Negative relationship
		Anxiety	–	Negative relationship
		Depression	–	Negative relationship
CC	–	Stress	–	Positive relationship
		Anxiety	–	Positive relationship
		Depression	–	Positive relationship
Turnover intent	–	Stress	–	Positive relationship
		Anxiety	–	Positive relationship
		Depression	–	Positive relationship

Appendix B – Survey

FIFO Work Organisational and Individual Impacts

About the study

This survey will take approximately 20-30 minutes, please help us collect information about:

- What support you get from your organisation and supervisor;
- What support services are important to you and your family;
- The impact of the FIFO lifestyle;
- How you have adapted to the FIFO lifestyle.

You will be asked some information about your current circumstances as well (e.g. sex, job, status in organisation, roster types). The survey is anonymous and your responses will be treated in the strictest confidence by the researchers. Data collected is NOT shared with any organisations. Only people over 18 should complete this survey.

It's only through people who complete surveys like this one that we can build a better picture of what organisations and people can do to help support you and your family get the best from the FIFO lifestyle.

You can withdraw your consent whilst completing the page, however, once the survey page has been submitted by clicking next, we will be unable to withdraw your data due to the anonymous nature of the survey.

This research is being undertaken by Dr. Graeme Ditchburn and Mrs Libby Brook with Master's Students. Results are expected to be available by November 2013 and can be found at

<http://www.murdoch.edu.au/School-of-Psychology-and-Exercise-Science/Research/Psychology-Research/Research-results/>

Or

www.FIFOresearch.com

This study has been approved by the Murdoch University Human Research Ethics Committee (Approval 2012073). If you have any reservation or complaint about the ethical conduct of this research, and wish to talk with an independent person, you may contact Murdoch University's Research Ethics Office (Tel. 08 9360 6677 or e-mail ethics@murdoch.edu.au). Any issues you raise will be treated in confidence and investigated fully, and you will be informed of the outcome.

FIFO Work Organisational and Individual Impacts

A bit about you

* 1. What is your age?

* 2. What is your sex?

* 3. What is the highest formal education that you have completed?

* 4. Were you born in Australia?

Yes

No

FIFO Work Organisational and Individual Impacts

Work

^ 5. What country were you born in?

6. How many years have you lived in Australia (if you don't live in Australia, please tell us which Country)?

^ 7. How would you rate your English speaking ability?

FIFO Work Organisational and Individual Impacts

Work

^ 8. Do you currently work

- FIFO (Fly-In Fly-Out)
- DIDO (Drive-In Drive-Out)
- Other (please specify)

^ 9. How many years have you been a FIFO / DIDO worker?

How many years have you worked in a FIFO / DIDO capacity?

How many years have you worked in your current job?

Have you ever had a break from FIFO / DIDO? If so how long for?

10. What is your current job?

^ 11. What is the postcode of your worksite (or name of your worksite if no postcode)?

12. What is the postcode of your home?

* 13. Do you usually work offshore?

- Yes
- No
- Other (please specify)

* 14. Approximately how many hours TOTAL is it from your home to your workplace / accommodation?

15. While getting TO work (or site accommodation), approximately how many HOURS do you spend:

Flying

Driving

Being driven (bus / taxi etc)

On a boat

If you work as a driver please indicate time driving before first break here:

* 16. Are you a contractor or permanent employee?

- Contractor
- Employee
- Other (please specify)

* 17. How would you describe your industry?

- Transport
- Oil & Gas
- Mining
- Services
- Education
- Medical / Health Services
- Civil Construction
- Maritime
- Government
- Other (please specify)

18. What type of work are you currently undertaking?

- Construction
- Maintenance
- Shut down
- Operations
- Other (please specify):

* 19. What level of employee best describes you?

* 20. What is your Employment Status?

* 21. Is your immediate supervisor usually on-site?

--- Thanks for that, the next page is a bit shorter ---

FIFO Work Organisational and Individual Impacts

Family

22. Which of the following members of your family, if any, are living in Australia?

- Partner
- Children
- Parent(s)
- Sibling(s)
- Other (please specify):

* 23. How many children do you have?

FIFO Work Organisational and Individual Impacts

24. Please indicate if you think that FIFO is a major contributing factor in not having children at this time or not.

- Yes - if it wasn't for FIFO, I would have tried to have children by now
- Somewhat - it is making it difficult for us to try to have children
- No - it is irrelevant to FIFO
- Other (please specify)

FIFO Work Organisational and Individual Impacts

25. What age/s are your child/ren?

	1y	2y	3y	4y	5y	6y	7y	8y	9y	10y	11y	12y	13y	14y	15y	16y	17y	18y	19y	20y	21-30y	over 30 years	Not Applicable
Child 1	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Child 2	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Child 3	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Child 4	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Child 5	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Child 6	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Child 7	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Child 8	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

26. For each child (please keep the same order as above) please indicate when they reside in the home you return to after your swing.

	Permanently lives at my home	Only at my home for my whole leave period	Only at my home for part of my leave period	Stays at my home occasionally regardless of my leave period	Does not live in my home at all	Not applicable
Child 1	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Child 2	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Child 3	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Child 4	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Child 5	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Child 6	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Child 7	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Child 8	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

--- Thanks, next the all-important roster questions ---

FIFO Work Organisational and Individual Impacts

Roster

* 27. Is your roster predictable?

Yes Sometimes No - always different

Other (please specify):

* 28. Would you prefer a different roster / swing?

* 29. Rosters (Please enter your MAIN roster - if you have multiple then enter the first here, and the second in the 'other' box)

	DAYS On	DAYS Off
What is your usual roster?	<input type="text"/>	<input type="text"/>
What roster would you prefer?	<input type="text"/>	<input type="text"/>

Other (please specify):

* 30. Where are you currently on your roster / swing?

- Start of swing
- Middle of swing
- End of swing
- Start of leave
- Middle of leave
- End of leave

* 31. Do you work any night shifts?

- Yes
- No

FIFO Work Organisational and Individual Impacts

32. How many night shifts in a row?

33. How many night shifts in total for one swing?

34. If you had a choice, how many night shifts would you do in a row?

FIFO Work Organisational and Individual Impacts

Work Family Conflict

* 35. Please indicate the degree to which you agree or disagree with each statement.

	Strongly Disagree	Disagree	Slightly Disagree	Neither Agree nor Disagree	Slightly Agree	Agree	Strongly Agree
After my swing at work, I am too tired to do some of the things I like to do.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My work impacts on time for my personal interests	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My work takes up time that I'd like to spend with family and friends	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I'm often too tired at work when I first start my swing because of the things that I have to do at home.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I find it hard to manage my personal demands and it takes away from my work.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I wish I was more involved in the daily lives of those close to me (e.g. Partner, kids, relatives, friends) on days when I'm working	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel tired and need to rest in my first 1 or 2 days of leave	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I'm in a bad mood during my last 1 or 2 leave days	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It takes 1 or 2 days to 'fit in' to the lives of those close to me (e.g. partner, kids, relatives, friends) again at the beginning of my leave periods	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My roster makes it difficult for me to participate in community events and/or team sports	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The first 1 or 2 days of leave are stressful (e.g. difficult, demanding, tense).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My roster causes me to miss important events with those close to me (e.g. Birthdays, Christmas, kids' milestones, anniversaries).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

FIFO Work Organisational and Individual Impacts

Work Support and Adjustment

* 36. Please think about who you report to most frequently when answering the following.

Please tick the box which indicates the degree to which you agree or disagree with each statement.

	Strongly Disagree	Disagree	Slightly Disagree	Neither Agree nor Disagree	Slightly Agree	Agree	Strongly Agree
My supervisor really cares about my wellbeing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My supervisor strongly considers my goals and values	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My supervisor cares about my general satisfaction at work	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My supervisor shows a lot of concern for me	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

* 37. Now think about your ORGANISATION

Please tick the box which indicates the degree to which you agree or disagree with each statement.

	Strongly Disagree	Disagree	Slightly Disagree	Neither Agree nor Disagree	Slightly Agree	Agree	Strongly Agree
My organisation really cares about my wellbeing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My organisation cares about my general satisfaction at work	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My organisation is willing to extend itself in order to help me perform my job to the best of my ability	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

* 38. In relation to your current FIFO/DIDO job, please indicate to what extent you have ADJUSTED to the following factors.

	Not at all	Slightly	Somewhat	Reasonably	Considerably	Completely
Living conditions in general	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Housing conditions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Entertainment / recreation facilities and opportunities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Socialising with other workers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Interacting with other workers on a day to day basis	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Living away from family and / or friends	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Specific job requirements	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Weather	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Transportation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Job Responsibilities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Performance expectations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
General standards of work	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

FIFO Work Organisational and Individual Impacts

Organisational Commitment

* 39. Please indicate the degree to which you agree or disagree with each statement about commitment to your organisation.

	Strongly Disagree	Disagree	Slightly Disagree	Neither Agree nor Disagree	Slightly Agree	Agree	Strongly Agree
I do not feel like 'part of the family' at my organisation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I do not feel 'emotionally attached' to my organisation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I do not feel a strong sense of belonging to my organisation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Even if it were to my advantage, I do not feel it would be right to leave my organisation now.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I would feel guilty if I left my organisation now.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My organisation deserves my loyalty	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I would not leave my organisation right now because I have a sense of obligation to the people in it.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Too much in my life would be disrupted if I decided I wanted to leave my organisation now.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Right now, staying with my organisation is a matter of necessity as much as desire.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that I have too few options to consider leaving this organisation.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
One of the few serious consequences of leaving this organisation would be the scarcity of available alternatives.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Within the next 2 years, I am likely to leave my current organisation for a job in another organisation.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

* 40. I want to leave

	6 Months	1 Year	2 Years	5 Years	10 Years	Not in the foreseeable future
My Job	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
FIFO / DIDO	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
This industry	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My trade	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

* 41. Please indicate to what extent you agree with each statement

	Strongly Disagree	Disagree	Slightly Disagree	Neither Agree nor Disagree	Slightly Agree	Agree	Strongly Agree
I admire people who own expensive homes, cars and clothes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The things I own say a lot about how well I'm doing in life	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I like to own things that impress people	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I try to keep my life simple as far as possessions are concerned	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Buying things gives me a lot of pleasure	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I like a lot of luxury in my life	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My life would be better if I owned certain things I don't have	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I'd be happier if I could afford to buy more things	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It sometimes bothers me quite a bit that I can't afford to buy all the things I'd like	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Things would get better if I had more money	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
More money will make you happier	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It is hard to be poor and happy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
You can never have enough money	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Money is power	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Money would solve all my problems	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When things look hopeless, I don't give up.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am able to adapt to change	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I can deal with whatever comes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I tend to bounce back after illness or hardship	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Coping with stress can strengthen me	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I can achieve goals despite obstacles	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I'm not easily discouraged by failure	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I think of myself as a strong person	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I enjoy dealing with new and unusual situations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel like I am trapped in FIFO / DIDO because of the money, to pay my expenses.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

FIFO Work Organisational and Individual Impacts

* 42. Has FIFO / DIDO ever been a significant factor in a relationship breakdown for you?

- Very Significant
- Significant
- Neutral
- Insignificant
- Very Insignificant
- Not Applicable

FIFO Work Organisational and Individual Impacts

43. How many relationships do you feel that it has had an impact on?

FIFO Work Organisational and Individual Impacts
Relationship

* 44. What is your current relationship status?

- Single
- With Partner
- Married
- Divorced (if with another partner, please select 'partner')
- Widowed
- Engaged
- Separated
- Other (please specify)

FIFO Work Organisational and Individual Impacts

45. Does your partner work?

- Yes
- No

FIFO Work Organisational and Individual Impacts

46. Do they work in a FIFO / DIDO capacity?

- FIFO
- DIDO
- Neither

47. What is the employment status of your partner?

- Full-Time
- Part-Time
- Casual
- Other (please specify)

FIFO Work Organisational and Individual Impacts

Relationship

48. Approximately how long have you been in your current relationship?

49. Please describe your current relationship with your current partner by choosing the most appropriate response for each statement

	Not at all	A little	Quite a bit	Very much
To what extent can you really count on this person to distract you from your worries when you feel under stress?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
To what extent could you count on this person for help with a problem?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
How angry does this person make you feel?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
How upset does this person sometimes make you feel?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
How often does this person make you feel angry?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
How much do you argue with this person?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
How significant is this relationship in your life?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
How positive a role does this person play in your life?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

50. Communication availability at your site

	multiple times a day	once a day	once every two days	once every 3-6 days	once a week	Not at all (but I could if I wanted / needed to)	Not at all because I have no access to communication methods	Other
On average, how often do you communicate with your partner while you are off swing (on leave)?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Approximately how often do you communicate with your partner whilst away at work / on swing?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

51. What methods do you use, and to what extent?

	All the time	Quite a lot	Sometimes	Every now and again	Hardly ever / never
Telephone voice call	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Satellite phone	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Text message	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Skype, Tango or similar	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Video Call (mobile)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
E-Mail	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Internet instant message (e.g. msn messenger)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Letter by post	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Other (please specify)

52. Please indicate to what extent you agree or disagree with these statements.

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Not Applicable
My organisation SUPPORTS my communication with my partner by providing facilities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My organisation ENCOURAGES me to communicate with my partner	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Communication with my partner while I am on swing is very important	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My partner is always available for communication while I am away	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I chose this job because I knew communication with my partner was not going to be a problem here	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Arguments arise because of a lack of communication whilst I am on swing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My partner calls me too often during my working hours	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

53. How long per phone conversation (or skype or video call) would you usually spend talking to your partner?

- 2-5 minutes
- 5-10 minutes
- 10-20 minutes
- 30 minutes or longer
- Varies too much to say
- Don't call partner whilst on swing

Please answer the following questions in regard to the use of formal support services. 'Formal Support Services' refers to any designated service or company that provides support in the form of counselling and/or therapy (individual, couples or group), telephone support (such as Men's Domestic Violence Helpline, Lifeline) and counselling via the internet (eHeadspace).

54. Which of the following do you consider to be a barrier to you seeking support for RELATIONSHIP ISSUES?

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Unsure of what services are available and / or how to link in with them	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My roster - cannot attend regularly	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My roster - not enough time at home	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Have tried therapy / support services before and did not like the experience	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Have tried therapy / support services before and it did not help	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Partner is not willing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Do not want others to know I am experiencing relationship difficulties	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Too expensive	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Other (please specify)

55. Which of the following do you consider to be a barrier to you seeking support for YOUR MENTAL HEALTH AND WELL-BEING?

Remember support services include counselling / therapy either in person, online or by phone (e.g Lifeline, eHeadspace etc)

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Unsure of what services are available and / or how to link in with them	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My roster - cannot attend regularly	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My roster - not enough time at home	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Have tried therapy / support services before and did not like the experience	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Have tried therapy / support services before and it did not help	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Partner is not willing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Do not want others to know I am experiencing relationship difficulties	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Too expensive	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Other (please specify)

56. Which of the following options would you consider as likely to increase your willingness to engage with a support service for things like relationship issues, mental health concerns and alcohol consumption?

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
If such services were cheaper	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If I had more information about what was available to me	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If my employer would contribute to the overall cost of the support I was accessing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If I could attend face-to-face support / therapy sessions while away at work so that it does not impact on my time off (e.g. if there was a psychologist or counsellor available to meet with at your work site on a regular basis).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If there was a flexible way of staying regularly engaged with the service - such as using Skype or telephone sessions from my private bedroom at work after hours.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If others I work with were also utilising support services	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Other (please specify)

* 57. We want to know how your health has been in general over the last few weeks.

Please read the questions below and each of the possible answers. Indicate the response that best applies to you.

	Better than usual	Same as usual	Less than usual	Much less than usual
Have you recently been able to concentrate on what you're doing?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

* 58. Health

	Not at all	No more than usual	Rather more than usual	Much more than usual
Have you recently lost much sleep over worry?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Have you recently felt constantly under strain?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Have you recently felt you couldn't overcome your difficulties?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Have you recently been feeling unhappy or depressed?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Have you recently been losing confidence in yourself?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Have you recently been thinking of yourself as a worthless person?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Have you recently been feeling reasonably happy, all things considered?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

* 59. Health

	More so than usual	Same as usual	Less so than usual	Much less than usual
Have you recently felt that you are playing a useful part in things?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Have you recently felt capable of making decisions about things?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Have you recently been able to enjoy your day-to-day activities?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Have you recently been able to face up to your problems?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

* 60. AUDIT Questionnaire

How often do you have a drink containing alcohol?

- Never
- Monthly or less
- 2-4 times a month
- 2-3 times a week
- 4 or more times a week

FIFO Work Organisational and Individual Impacts

61. How many standard drinks containing alcohol do you have on a typical day when drinking

- 1 or 2
- 3 or 4
- 5 or 6
- 7 to 9
- 10 or more

62. AUDIT continued...

	Never	Less than monthly	Monthly	Weekly	Daily or almost daily
How often do you have six or more drinks on one occasion?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
During the past year, how often have you found that you were not able to stop drinking once you had started?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
During the past year, how often have you failed to do what was normally expected of you because of drinking?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
During the past year, how often have you needed a drink in the morning or to get yourself going after a heavy drinking session?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
During the past year, how often have you had a feeling of guilt or remorse after drinking?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
During the past year, have you been unable to remember what happened the night before because you had been drinking?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

* 63. AUDIT continued

	No	Yes, but not in the past year	Yes, during the past year
Have you or someone else been injured as a result of your drinking?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Has a relative or friend, doctor or other health worker been concerned about your drinking or suggested you cut down?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

64. Which of the following do you consider to be a barrier to you seeking support for YOUR ALCOHOL CONSUMPTION?

Please skip this question if not applicable.

Remember support services include counselling / therapy either in person, online or by phone (e.g Lifeline, eHeadspace etc)

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Unsure of what services are available and / or how to link in with them	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My roster - cannot attend regularly	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My roster - not enough time at home	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Have tried therapy / support services before and did not like the experience	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Have tried therapy / support services before and it did not help	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Partner is not willing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Do not want others to know I am experiencing relationship difficulties	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Too expensive	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Other (please specify)

* 65. STRESS

When you are stressed or upset, to what extent do you do the following:

	Not at all	Somewhat	Moderately	Quite a bit	Very Much
Take some time off and get away from the situation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Focus on the problem and see how I can solve it	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Blame myself for having gotten into this situation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Treat myself to a favorite food or snack	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Feel anxious about not being able to cope	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Think about how I solved similar problems	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Visit a friend	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Determine a course of action and follow it	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Buy myself something	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Blame myself for being too emotional about the situation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Work to understand the situation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Become very upset	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Take corrective action immediately	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Blame myself for not knowing what to do	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Spend time with a special person	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Think about the event and learn from my mistakes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Wish that I could change what had happened or how I felt	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Go out for a snack or meal	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Analyze my problem before reacting	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Focus on my general inadequacies	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Phone a friend	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

* 66. DASS

Please read each statement and indicate how much the statement applies to you OVER THE PAST WEEK.

There are no right or wrong answers. Do not spend too much time on any one statement.

	Did not apply to me at all	To some degree, or some of the time	A considerable degree, or a good part of the time	Most of the time
I found it hard to wind down	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I was aware of dryness of my mouth	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I couldn't seem to experience any positive feeling at all	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I experienced breathing difficulty (eg, excessively rapid breathing, breathlessness in the absence of physical exertion)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I found it difficult to work up the initiative to do things	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I tended to over-react to situations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I experienced trembling (eg, in the hands)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I felt that I was using a lot of nervous energy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I was worried about situations in which I might panic and make a fool of myself	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I felt that I had nothing to look forward to	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I found myself getting agitated	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I found it difficult to relax	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I felt down-hearted and blue	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I was intolerant of anything that kept me from getting on with what I was doing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I felt I was close to panic	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I was unable to become enthusiastic about anything	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I felt I wasn't worth much as a person	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I felt that I was rather touchy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I was aware of the action of my heart in the absence of physical exertion (eg, sense of heart rate increase, heart missing a beat)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I felt scared without any good reason	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I felt that life was meaningless	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

If you are not coping, it is important to seek assistance.

Useful contacts include:

- Your doctor - Talk to your doctor about how you've been feeling to find the most appropriate treatment for you. Your doctor can also refer you to a psychologist or other health professional.
- Lifeline (24/7) – 131 114
- Beyond blue – 1300 224 636

FIFO Work Organisational and Individual Impacts

Support Resources

The following section looks at the resources and supports you and your family may be aware of and used in the past. Please indicate below the resources which you are aware of, have used in the last 6 months, and how effective you thought they were.

67. Supports and Resources

	Aware of this	Used in last 6 months
Employee Assistant Programs (EAP's)	<input type="checkbox"/>	<input type="checkbox"/>
Support for Families When a Parent Works Away (Department for Communities, Government of Western Australia)	<input type="checkbox"/>	<input type="checkbox"/>
The Survival Guide for Mining Families (Mining Family Matters)	<input type="checkbox"/>	<input type="checkbox"/>
Working Away: A Survival Guide for Families (Mining Family Matters)	<input type="checkbox"/>	<input type="checkbox"/>
Mining Family Matters Website	<input type="checkbox"/>	<input type="checkbox"/>
FIFO Families Website	<input type="checkbox"/>	<input type="checkbox"/>
Parents Working Away Workshop (NGALA)	<input type="checkbox"/>	<input type="checkbox"/>
Fly In Fly Out Workshop (Relationships Australia)	<input type="checkbox"/>	<input type="checkbox"/>
Family	<input type="checkbox"/>	<input type="checkbox"/>
Friends	<input type="checkbox"/>	<input type="checkbox"/>
Co-Workers	<input type="checkbox"/>	<input type="checkbox"/>
Doctors/Health Professionals	<input type="checkbox"/>	<input type="checkbox"/>
Religious	<input type="checkbox"/>	<input type="checkbox"/>

Other (please specify)

68. If I have used this resource, I have found it useful for my needs

	Strongly Disagree	Disagree	Neither Agree or Disagree	Agree	Strongly Agree
Employee Assistant Programs (EAP's)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Support for Families When a Parent Works Away (Department for Communities, Government of Western Australia)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The Survival Guide for Mining Families (Mining Family Matters)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Working Away: A Survival Guide for Families (Mining Family Matters)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mining Family Matters Website	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
FIFO Families Website	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Parents Working Away Workshop (NGALA)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Fly In Fly Out Workshop (Relationships Australia)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Family	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Friends	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Co-Workers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Doctors/Health Professionals	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Religious	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Other (please specify)

Thank you for completing our survey.

We really appreciate your time and hope that we can use these results to inform organisations and community services about ways to improve FIFO and DIDO, as well as telling them the things that work well already.

* 69. It would help us if you could please briefly indicate where you heard about our survey so that we can spread the word!

Thanks

The research team