

The impact of mental health, service and transition factors on
civilian unemployment in transitioned Australian Defence Force members.

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Declaration

This report contains no material which has been accepted for the award of any other degree or diploma in any University, and, to the best of my knowledge, this report contains no material previously published except where due reference is made.

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Abstract

The transition from military to civilian life can be challenging for many service members as they learn to cope with changes in their vocational and personal identity, relationships and differences in civilian workplace expectations. Compared with their civilian peers, veterans are more likely to exhibit greater mental health symptomology. The presence of mental health conditions has been found to exacerbate adjustment difficulties, impacting on civilian reintegration and employment outcomes. Further exploration of the facilitators and barriers impacting transition success is needed to better support our veterans.

Literature Review

The commencement of the Gulf War Era II, following the September 11 attacks in the United States, saw a significant number of members recruited to the Australian Defence Force, with many being deployed overseas to serve in Operation Enduring Freedom (OEF, Afghanistan) or Operation Iraqi Freedom (OIF). Recently, it has been estimated that approximately 5,000 Australian Defence Force personnel transition from the military, either completely or into the Reserves, every year (Van Hooff et al., 2018). Transitioning from the military environment back to civilian life can be challenging for many members as they learn to cope with changes in their vocational and personal identity, relationships with significant others and differences in workplace expectations (Edwards, 2015). The presence of mental health conditions including Post-Traumatic Stress Disorder (PTSD), depression and substance abuse has been found to exacerbate these adjustment difficulties. Results from a recent Australian study indicated that approximately 46% of ADF members who had transitioned from service within the last five years prior to data collection, met the 12-month diagnostic criteria for a mental health disorder (Van Hooff et al., 2018). Poorer mental health and specifically the presence of PTSD symptoms has been associated with lower civilian employment participation (Iversen et al., 2005; Savoca and Rosenheck, 2000). Challenges in the availability and uptake of effective psychological and employment services has been noted in the veteran community (Abraham, Ganoczy, Yosef, Resnick & Zivin, 2014). Further exploration to better understand the facilitators and barriers impacting on transition success, will assist Defence, DVA (Department of Veteran's Affairs) and service providers to better support veterans adjusting to the civilian world.

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Career Transitions

A large body of research has examined the impact of career transition and the factors that lead to more successful adjustment to civilian life. Knight (2014) defined transition as an event that results in changing relationships, routines, assumptions and roles. Some people seem to handle life transitions easily, whereas others may experience difficulties, with readjustment impacting on their quality of life, functioning, wellbeing, mental and physical health and the potential for unemployment (Coons, 2018; McGinty, 2014). Within a civilian context, research has focussed on factors predicting successful retirement from employment. Donaldson, Earl and Muratore (2010) aimed to explore individual, psychosocial and organisational factors influencing retirement adjustment. Utilising data from 570 semi-retired and retired men and women, aged 45 years and over, they found that higher income, better psychological and physical health, higher degree of mastery and favourable conditions of exit were related to better adjustment upon retirement. Mastery, defined as the degree someone feels that they have control over what happens in their life and the decisions they make, has consistently been found to act as a key psychosocial resource during retirement and has been linked with better wellbeing outcomes (Donaldson, Earl & Muratore, 2010).

The concept of mastery and control was also investigated by Waters in 2007. Comparing participants, identified through a Centrelink data base as being made redundant involuntarily or voluntarily, Waters (2007) found that participants who were voluntarily made redundant reported lower levels of depression and engaged more in job seeking activities, as measured by a self-report survey. In contrast, participants who were made redundant with no choice or control over the decision reported higher levels of depression, lower organisational commitment to the new employer, higher perceived job insecurity and lower perceived re-employment quality. A carry-over effect was found in the involuntarily group, where once

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they were re-employed there was no change in levels of depression, whereas depression levels improved in the voluntarily redundant group once they were re-employed. Waters (2007) outlined the importance of control and involvement in the redundancy decision in facilitating better employee outcomes, specifically when moving into new employment.

Within a military context, members can retire from service either voluntarily, through resignation at their own request, compulsory age retirement, the end of a fixed period of engagement or acceptance of a voluntary redundancy, or involuntarily due to administration reasons or because of service-related physical or psychological injuries. In 2016, Hachey, Sundom, Sweet, MacLean and VanTil investigated the role of mastery and the social environment on transition from the military and how it correlates with health and life stress. Utilising the Survey on Transition to Civilian Life (STCL) on a sample of 3154 Canadian veterans, they found that easier adjustment to civilian life was correlated with lower life stress, higher mastery, greater satisfaction with social support, lower amount of health conditions and higher sense of community belonging. Even after controlling for health conditions and life stress they still reported a significant effect of mastery and social support on ease of adjustment. The researchers suggested that along with social support, the perception that veterans had control over their life impacted on their adjustment experiences. Medically or involuntarily discharged members may therefore experience more challenges in the transition and adjustment period.

Challenges of Military Retirement

Significant literature on civilian retirement exists; however, retirement from the military is yet to be extensively explored (Spiegel & Shults, 2003). The transition from military to civilian life can be challenging as a result of changes to occupation, finances, identity, social networks and interpersonal relationships (Bauer, Newbury-Birch, Robalino,

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Ferguson & Wigham, 2018). Difficulties with re-entry can arise from the movement between different organisational cultures, relocation and deployments impacting on members' ability to maintain and sustain civilian networks, the effects of physical and psychological injuries, changes in housing and finances and the lack of communication and coordination between civilian service providers (Gray, Wilson, Jenkins, Harrison & Martin, 2017; Herasingh, 2014). Many researchers have explored veterans' transition experiences through both qualitative and quantitative approaches, with the aim to identify factors that facilitate and/or inhibit successful transition from the military. Measures of successful transition or ease of transition have included employment, income, health (physical and psychological), social support and stress outcomes (MacLean et al., 2014). Findings relating to factors predicting difficult re-entry to civilian life have included experiencing a traumatic event, obtaining a serious injury, serving overseas whilst married and being separated from loved ones, serving post 9/11, serving in combat, knowing someone who was killed or injured, the presence of PTSD, substance abuse or other mental health problems (Herasingh, 2014; MacLean et al., 2014).

MacLean et al. (2014) investigated the protective and risk factors associated with military transition through surveys and telephone interviews with participants who discharged between 1998-2007. The results indicated that the prevalence rates of self-reported difficult adjustment were higher in people released from the military mid-career (two-19 years' experience), who were medically discharged, or who were in the army and had numerous deployments. Lower rates of difficulties with adjustment were noted in younger veterans who served for less time (less than two years), older veterans and veterans who discharged voluntarily or reached retirement age, had a higher rank, served in the air force, were satisfied with their subsequent finances and job, had a higher sense of mastery and community belonging, lower reported stress and higher social support.

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Using a qualitative approach, Ahern et al. (2015) also explored the transition challenges for veterans specifically returning from Middle East Operations. The researchers interviewed 24 veterans who served during 2009-2011 in the US army and using thematic analyses identified several common themes as a result of their semi-structured interviews. Many of the veterans focussed on the concept of the military as a family and not just a workplace and reported that in the military they felt they were taken care of in a holistic sense. Upon discharge, many reported feelings of alienation from the civilian world and disconnection from people at home who didn't share or understand their military experience. Veterans also commented on the lack of structure and purpose upon return to civilian life as challenging but noted that social support, especially from veteran peers, acted as a protective factor. Herasingh (2014) reported similar results in her qualitative study involving semi-structured interviews with five US army veterans aged 18-32 years. Transition difficulties identified included isolation, lack of direction, anxiety and hypervigilance, substance abuse, and issues with people in the civilian world understanding their military experiences.

The differences between military and civilian culture have been well documented in the literature. Members often report that the military is a social system, with clearly defined roles, where people are generally isolated from the civilian world (Spiegel & Shults, 2003). The military culture is seen as very routine, structured, hierarchical in nature, and leading to members' identity being centred around their role in the forces. Herasingh (2014) investigated the concept of vocational identity on Gulf War Era II veterans. Reviewing the reasons why members join the military initially, they uncovered the four main reasons for enlistment: family tradition, escape from current situation, military benefits and identity with warrior mentality. Many members who enter the military straight from secondary schooling may not have developed a true sense of self or formed a strong identity prior to joining the military. Members may therefore develop self-knowledge in an occupational sense and may

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lose sight of their own interests, values and skills in the process of military training and service time (Edwards, 2015). Upon discharge members do not participate in intense exit training, such as the training undertaken during recruitment, to prepare for a return to civilian culture, where less structure and more independence is required (Koenig, Maguen, Monroy, Mayott & Seal, 2014). Members may therefore experience an identity crisis or reverse culture shock following discharge, resulting in increased difficulty in career decision making and ease of adjustment to the civilian world.

Recognising the challenges in transitioning from the military to civilian culture, the United States government underwent an overhaul of its Transition Assistance Program in 2013, with the aim to improve the transition outcomes for ex-service personnel (Edwards, 2015). Incorporating additional modules including financial planning and employment skills over a five-day period, it was hoped that the program would assist members to adjust more successfully to civilian culture. Qualitative reports indicate that the program has been well received, specifically in relation to the useful practical applications and education regarding Veterans Affairs processes. However, no data on effectiveness in terms of vocational and social adjustment outcomes has been reported to date (Edwards, 2015).

An important facilitator to successful adjustment to civilian life is the presence of social support, specifically contact with other veterans. Due to moving frequently, many members find developing and maintaining strong civilian social networks difficult (McGinty, 2014). Eells (2017) investigated the impact of veteran mentoring programs on the transition experiences of 71 veteran students attending universities in the US. She found that a better mentorship experience was reported if veterans were linked with another veteran, rather than non-veteran. Many of the veteran students reported that they felt more mature than their student peers, with greater life experience impacting on their ability to form strong bonds.

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Coons (2018) also found frequent contact with other veterans was associated with ease of transition. In the study surveying 595 veterans who had transitioned since 2008, factors such as social support, experiences of deployments, discharge training, the kind of situation the member was returning to (home situation), personality characteristics such as extraversion, the presence of PTSD symptoms and negative emotions were found to be associated with ease of adjustment to civilian life. Van Voorhees et al. (2018) also found that social support was strongly related to PTSD symptomology in their study investigating the risk and protective factors for increased violence in veterans returning from deployment.

The Impact of Mental Health

One of the major barriers for transition success is the presence of mental health problems. Veterans have been found to have higher rates of mental illness compared to non-veterans, specifically Post Traumatic Stress Disorder. It has been reported that 37% of US veterans receive a mental health diagnosis, specifically 22% PTSD, 17% depression, 10% substance abuse and 20% mild traumatic brain injury (Twamley et al., 2013).

In a recent longitudinal study based in the UK, Palmer et al. (2018) aimed to measure the prevalence of PTSD at four time points, beginning in 2002. Results from the randomly selected sample from Army, Navy and the Airforce, indicated that 90.2% of the sample were classified as resilient, with a low and stable mental health trajectory. Veterans who self-rated a higher level of childhood adversity, demonstrated anti-social behaviour in childhood, reported misuse of alcohol and had been out of the military for longer were more likely to be classified as deteriorating (5.7%), with increasing mental health symptomology, or as improving (4.1%), with high initial mental health symptomology but improvements noted over time. Young members who were in combat roles within the Army were also more likely to be in the deteriorating trajectory and had a worse prognosis of PTSD. Based on their data,

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Palmer et al. (2018) concluded that exposure to trauma has a greater adverse effect on people who are vulnerable (ie. history of childhood trauma and anti-social behaviour). In addition, exposure to traumatic events may have a greater impact if it occurs earlier in a member's career. Van Voorhees et al. (2018) also investigated combat exposure and increased violence upon return from deployment. Consistent with the findings from Palmer et al. (2018), the results of their longitudinal study of 1090 veterans, indicated that a history of violent behaviour predicted subsequent violent behaviour, and this was related to combat exposure and alcohol misuse.

Deployment to an active war zone is known to increase the risk of PTSD (Coons, 2018). Compared with veterans of previous eras, modern day veterans generally undertake longer deployments, with less time in-between to recover and reintegrate. The Homecoming Theory was developed after WW2 and offers a framework for understanding the transition difficulties arising from deployment (Ahern et al., 2015). It proposes that when members deploy, they are separated by time and space from their family, children and loved ones. When they return home, they may find their children have matured, with different needs and routines (McGinty, 2014). In addition, differences in expectations and the reality for returning veterans can be a shock and requires the re-establishment of connections with the civilian world (Ahern et al., 2015).

To explore the relationship between PTSD, depression, career decision self-efficacy and deployment length in the reintegration of Iraq and Afghanistan veterans, McGinty (2014) surveyed 66 US military veterans transitioning out of the forces. The results indicated that higher PTSD symptomology and lower career decision self-efficacy were significant predictors of transition difficulties, with the presence of PTSD the highest predictor. Contrary to previous research suggesting that longer deployments lead to a greater decline in mental

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health, they found no significant relationship between depression and length of deployment on reintegration.

The presence and impact of PTSD may not become apparent until after veterans have discharged from the military (Coons, 2018). As social support protects against PTSD symptomology, being part of the military family and having connections with others who have had similar experiences may buffer against the development of PTSD and other mental health conditions while in the military (Coons, 2018; Van Voorhees et al., 2018). Another challenge facing veterans who have transitioned from the military is the changes in service provision of health care. During their military service, members access health care services on-base and upon discharge go from one to multiple service providers (Gray et al., 2017). Information sharing and a lack of military cultural awareness in civilian health care providers can cause frustration and barriers for veterans accessing services. Gray et al. (2017) reviewed 40 UK policies and document practices on information sharing in the military transition process. The main findings outlined that transition is a complex pathway where the responsibility shifts from the military to the individual. The researchers expressed the need for more information-sharing practices and continuity of services. Within the civilian world, the veteran is responsible for facilitating their own health and community services, which can be confusing, especially for the veterans who have the greatest difficulties (Gray et al., 2017). The lack of communication within the military and during transition was also reported by Herasingh (2014) in their qualitative study interviewing five US army veterans. The participants suggested that health care providers with greater knowledge and understanding of the difficulties facing veterans transitioning from the military would be useful.

In addition to health care services, veterans with diagnosed mental health disorders also have access to vocational rehabilitation and employment services. Research has

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indicated that participation in these services is limited. In an examination of two national US databases of veterans who had served in OIF/OEF, Twamley et al. (2013) reported that only 8.4% of veterans accessed these services and the retention rate was low. However, once they utilised services such as supported employment, the outcomes were positive with 51% obtaining paid employment.

Mental Health and Employment

There is extensive literature on the association between mental health and employment. The World Health Organisation in 2010 estimated that 450 million people worldwide suffer from mental health disorders. Within the US it has been estimated that 26% of people have a mental health disorder and 15 million people have depression, costing society an estimated \$200 billion per year (Frijters, Johnston & Shields, 2014). Within the UK it is estimated that only 15% of people with a serious mental health problem are employed (Evans & Repper, 2000). In 2014, Frijters, Johnston and Shields (2014) utilised longitudinal Australian data obtained from the Household, Income and Labour Dynamics in Australia survey, to examine the effect of mental health on employment. The researchers found that a decline in mental health, as measured by the Short-Form General Health Survey and the Kessler Psychological Distress Scale, reduced employment by 30%. People with poor mental health had lower employment rates by 12% and were more likely to be female, less educated, unmarried or having less social support.

From a reverse causality perspective, Olesen, Butterworth, Leach, Kelaher and Pirkis (2013) used the same data source as Frijters, Johnston and Shields (2014) to examine the reciprocal relationship between unemployment and mental health. Utilising nine waves of data, they found that mental health, as measured by the Mental Health Inventory (MHI-5), was shown to be both a consequence and risk factor for unemployment. They concluded that

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poorer mental health is evident in unemployed people, which is due to the unemployment itself and pre-existing mental health issues.

Winefield, Tiggemann and Winefield (1991) also investigated the casual relationship between unemployment and psychological wellbeing using longitudinal data from 3130 school leavers spanning seven years. The results outlined that participants who were unemployed or dissatisfied with their employment had poorer psychological wellbeing on a range of measures including self-esteem, depression symptoms, locus of control, mood, hopelessness, the GHQ and job satisfaction. Baseline measures showed no difference between the groups on psychological wellbeing, therefore supporting the theory that unemployment leads to mental health problems. The researchers also noted some gender differences, with males faring worst in the unemployed group but females reporting poorer wellbeing in the dissatisfied with employment group, which could potentially be attributed to differences in societal pressures, such as greater financial and family responsibilities for men, especially during middle-age (Warr & Jackson, 1985).

Using the Household Income and Labour Dynamics in Australia longitudinal survey, Milner, Spittal, Page and LaMontagne (2014) examined whether people exiting the workforce due to mental health issues stabilised or worsened over numerous periods without work. They found that there was a decline in mental health scores following one spell of unemployment. However, greater than two spells yielded no further decline in mental health, leading to the conclusion that people may become desensitised to the negative impact of unemployment. These results were consistent with Warr and Jackson's (1985) study, where a significant decline in General Health Questionnaire scores in the first three months of unemployment was noted but following this time the scores remained stable. Warr and

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Jackson (1985) also reported that once participants regained employment, the GHQ scores improved considerably.

Engagement in employment can improve people's quality of life, mental health, social networks and lead to greater social inclusion. Work provides a sense of belonging and purpose, where people can have opportunities to contribute to shared goals, obtain recognition for their efforts and achievements (Evans & Repper, 2000). A lack of understanding of mental health can lead to discrimination and exclusion from the labour market. Employers may think that people with mental health issues may be less productive and have more time off work; however, research has found that this isn't necessarily the case (Evans & Repper, 2000). Evans and Repper (2000) outline that historically, in the eighteenth century, work was used as a therapeutic strategy, whereas in the 1970's and 1980's people with mental health concerns were institutionalised in hospital day programs. We are now seeing a movement back to community-based settings, and a re-focus on the positive impact of employment on psychological health, including the incorporation of employment goals into individualised care plans (Evans & Repper, 2000). This is also true for the veteran community, who are more at risk of mental health conditions.

Veteran Employment

Consistent with research in the civilian space, veterans with mental health conditions are also more likely to be unemployed or working in a part-time capacity and have lower earnings compared with non-veteran peers (Kukla, Rattray & Salyers, 2015). Veterans with mental health issues are also more likely to be unemployed or retired than other veterans of the same era (Abraham et al., 2014). Iversen et al. (2005) analysed the Health Survey of Military Personnel data set of 8195 personnel who served during 1991 and followed up in 2001. They found that poor mental health was associated with a greater chance of being

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unemployed. Similarly, investigating a sample of Vietnam Veterans, Savoca and Rosenheck (2000) found that the presence of PTSD symptoms significantly lowered veterans' likelihood of working and their hourly wages by 16%. Generally, all psychiatric disorders had a negative impact on the probability of employment. The length of time a veteran was employed in the military did not have an impact on the likelihood of working or wages; however, they did see a positive effect of education on earnings. Better physical health and being married or in a defacto relationship were found to positively impact on the number of hours worked per week. Having other sources of income, such as from veteran benefits, had a negative impact on hours worked per week.

In a sample of 585 National Guard service members, Burnette-Zeigler et al. (2011) examined the associations between mental health symptoms, alcohol use, number of deployments and combat exposure on employment status. The results indicated that only 41% were employed 45-60 days after separation from the military and 79% of those who were employed were working in a full-time capacity. Veterans who were younger, had a lower education level, lower family income and poorer mental health status were less likely to be employed. Interestingly they found that deployment and recent combat exposure were positively associated with the likelihood of employment. This result is surprising given that combat exposure is known to increase the likelihood of PTSD and mental health conditions, both of which are negatively associated with employment. Burnette-Zeigler et al. (2011) suggested that the deployment variable may have been influenced by age, as older veterans were more likely to have multiple deployments and were also more likely to be employed.

The influence of combat exposure was also investigated by Kukla, Rattray and Salyers (2015) in their mixed methods approach. Interviewing 40 US veterans, recruited via an outpatient mental health service, they found that veterans with combat experience had

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greater barriers, particularly health related such as physical and cognitive impairment, compared to those veterans with no combat exposure. These barriers, coupled with substance abuse, made re-integration difficult and were associated with inconsistent employment outcomes. Participants reported that they found their expectations regarding finding work were different from their actual less positive experience and many felt that civilian employers didn't see how their military skills could be translated into civilian work.

Many have noted that the perception and value of military training, skills and experience may influence civilian employers' decisions to hire veterans. Challenges in translating military skills into civilian language that employers understand may contribute to difficulties in this respect, as well as the tendency for veterans to de-emphasise their skills and failure to highlight their leadership and management experience (Edwards, 2015). To investigate this potential civilian employer bias, Kleykamp (2009) conducted a study which involved resumes being sent to real-world job advertisements in New York City. The resumes sent differed only in relation to previous military employment; however, the other skills and qualifications were identical. The results indicated that in relation to administrative skills, there were no differences in rates of interview call-backs. However, combat veterans received less call-backs compared to non-veterans, potentially due to the perceived lack of transferrable skills. In addition, differences were noted in relation to ethnicity, where black combat veterans received no call-backs.

Some research has also investigated the impact of military service during different war periods. Consistent with previous studies, in their study investigating the effect of military service on mental health and work behaviour, Anderson and Mitchell (1992) found that Vietnam Veterans reported more alcohol and drug use than WWII or Korean War veterans, leading them to fare worse in the labour market (Humensky, Jordan, Stroupe &

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Hynes, 2013). Interestingly, when controlling for mental health, they found that military service itself had no direct impact on the likelihood of employment, but rather the relationship between service and mental health was the most important determinant of civilian employment.

In 2013, Kleykamp examined the rate of unemployment, earnings and college enrolment in post 9/11 veterans. Utilising the US based Current Population Survey, results indicated that veterans had a 58% higher likelihood of unemployment compared with non-veterans. Additionally, female veterans had a further 38% chance of being unemployed compared with their male counterparts. Hamilton, Williams and Washington (2015) also reported the unemployment rate among US women veterans in 2010 to be 11.2%, which was higher than male veterans (9.4%) and civilian women (8.3%). Through their analysis of the National Survey of Women Veterans, they found that a positive screening for depression exacerbated unemployment in women veterans by five times.

With the reported higher rates of unemployment in the veteran community, there has been a recent push for the implementation of assistance programs to aid veterans to locate and sustain civilian employment following military discharge. In countries such as the US, UK and Australia, there are many employment assistance options, such as career counselling, supported employment, subsidised education schemes and incentives for civilian employers to hire veterans (Schulker, 2017). Comparing employment services available within the US, Penk et al. (2010) conducted a randomised trial of 89 veterans to uncover the most effective services for employment outcomes. The results indicated that participants involved in transitional work experience were more likely to be engaged in paid activities, worked more hours and weeks and earned more in total wages compared with participants accessing job placement, which is a generalised service for all job seekers. Penk et al. (2010) concluded

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that although there were no differences between the groups regarding obtaining competitive employment, transitional work experience helped to quickly engage veterans in paid activity. Assistance from employment services was also identified as a facilitator for employment success in a mixed methods study by Kukla, McGuire & Salyers (2016).

Although there are a range of effective civilian employment services and support options available, it has been reported that only 4.2% of veterans with psychiatric disorders receive employment services (Abraham et al., 2014). Given the barriers that people with mental health conditions face returning to the workforce, further investigation is warranted to uncover why these services are not utilised to a greater capacity, particularly by those with mental health issues. Some have expressed concern that disability income programs act as a disincentive for veterans to work and participate in rehabilitation activities. Using the Survey of Disabled Veterans, which included data obtained from 9908 interviews between 1988-1989, combined with the 1987 Census Bureau Survey, Greenberg and Rosenheck (2007) found that the likelihood of employment was only negatively impacted at payment levels more than \$800 per week. The data analysis also uncovered that veterans with service injuries were more likely to be unemployed, and have a lower average income, report poorer general health status, be older and single, be a member of a minority group, and have served in a combat zone compared with non-injured veterans.

Australian Veteran Outcomes

Much of the research on military transition to date has been based in the US or UK. Very little is currently known about veterans transitioning from the Australian Defence Force and to address this literature gap, in 2015 the Department of Defence and Department of Veteran Affairs (DVA) funded the Transition and Wellbeing Research Programme (the Programme). The Programme aims to examine the effects of military service on health

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outcomes for currently serving and ex-serving members/veterans and their families. In 2017, the Australian Institute of Health and Welfare (AIHW) also established a four-year program to build a detailed profile of the health and welfare of the veteran population in Australia. Based on the ‘veteran-centric model’, the program aims to understand many facets of health and welfare including employment. Considering information obtained from recent Australian studies, including the Programme, it is reported that 84% of veterans are engaged in employment or purposeful activities. However, 44% of veterans reported that they have had periods of unemployment greater than three months since leaving the service.

The Mental Health Prevalence and Pathways to Care Summary Report, forming part of the Programme, were released in 2018 and identified several factors influencing mental health outcomes for members who have transitioned from the ADF. At the time of the report, approximately 46% of ADF members who had transitioned from service within the last five years, met the 12-month diagnostic criteria for a mental health disorder. Self-reported measures were utilised in this research programme to measure psychological distress (K10), posttraumatic stress symptoms (PCL), alcohol use (AUDIT), depressive symptoms (PHQ), anxiety symptoms (GAD-7), anger (DAR-5) and suicidal ideation and behaviour (five items adapted from the NSMHW). Ex-service personnel self-reported greater psychological distress, depression, anxiety, anger, suicidality and alcohol use compared with currently serving members, highlighting the barriers and challenges facing veterans leaving full-time service.

The Mental Health Prevalence report identified several risk and protective factors impacting on mental health outcomes. Consistent with previous research, having served recently in the military seems to act as a protective factor from mental health conditions, with better mental health found in veterans who had transitioned less than 12 months prior to data

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collection (Coons, 2018). As the years progressed, mental health deteriorated, although this was not a linear relationship and varied according to the specific mental health disorder. The first 12-months following military discharge therefore seems to be a critical period for the emergence of future mental health concerns.

Veterans who had medically discharged, leaving due serviced-related injuries, were also more at risk of mental health concerns. This result was not surprising as poorer general health is associated with lower psychological wellbeing (Hachey et al., 2016). Often members who are medically discharged also often have no choice in their retirement, adding to difficulties with adjustment to civilian life due to the lack of control over life decisions. Similarly, veterans who were a DVA client, meaning they had access to assistance for treatment and vocational goals, had significantly higher rates of mental health concerns.

Consistent with previous research, the Mental Health Prevalence survey found that the prevalence of PTSD was higher in the Army and Air Force compared with the Navy (MacLean et al., 2014; Van Hooff et al., 2018). This may be attributed to the type of roles and operation engagement required within the different services. For example, Army personnel facilitate ground operations and are more likely to encounter combat situations involving adversaries. In relation to rank, non-commissioned officers reported higher anxiety symptoms. Anxiety disorders were also more common in veterans who had been deployed compared with veterans who hadn't deployed.

As previously outlined, MacLean et al. (2014) in their research on protective and risk factors associated with difficult adjustment found that veterans transitioning following two-19 years of service reported the most difficulty compared with those serving less than two years and greater than 19 years. In line with these results, the Mental Health Prevalence study reported that affective disorders were highest in veterans serving between 1-12 years and

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anxiety the highest with those serving 3 months – 3.9 years and 8-11.9 years compared with service between 4-8 years and greater than 12 years (McLean et al., 2014; Van Hooff et al., 2018). Subsequently, veterans 58 years and above had the lowest prevalence of mental health issues, with alcohol problems more common in the younger age group of 18-47 years. They found no differences between genders in the prevalence rates of mental health conditions.

The Programme has generated a large data set with includes demographic information, mental health, physical health, engagement in services and civilian employment information. Further exploration of the data to better understand the impact of service on Australian veterans is needed. As outlined in this literature review, there are many barriers and challenges facing veterans transitioning from military to civilian life. The Mental Health Prevalence report outlines the need for further examination of the risk and protective factors influencing successful civilian employment outcomes and the impact of mental health and other service-related factors. The relationship between mental health and employment has been extensively explored in the literature; however, there is a lack of research on this relationship within the veteran population, especially within Australia. Addressing this gap in the literature is therefore warranted to further understand employment outcomes in veterans with mental health conditions. This information would be useful in guiding service providers and help to identify veterans more at risk of unemployment and subsequent deterioration in mental health. Uncovering the risk and protective factors influencing this relationship would also help to target specific veteran cohorts and promote better transition outcomes.

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The impact of mental health, service and transition factors on
civilian unemployment in transitioned Australian Defence Force members.

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Abstract

Thousands of Australian Defence Force personnel transition out of the military every year. This transition from the military environment back to civilian life can be challenging for many members and the presence of mental health conditions has been found to exacerbate adjustment difficulties. Extending on research conducted overseas, this study explored the relationship between mental health conditions, education, service and transition factors on the probability of civilian unemployment in Australia. Survey data were obtained from the Transition and Wellbeing Research Programme, funded by the Department of Defence and Department of Veterans Affairs. Data from 1096 transitioned ex-service members were included in the final analyses. Findings suggest that greater mental health symptomology, specifically PTSD, depression, anxiety, anger, psychological distress and alcohol abuse, are associated with an increased likelihood of civilian unemployment. When all mental health measures were included in a multivariate model, only PTSD, depression and anxiety retained a significant association with unemployment. Unemployment was also found to be more likely if veterans had served for longer, had completed only secondary education, were medically discharged, a DVA client, and had only recently discharged. An interaction effect was found between mental health and medical discharge, where medical discharge acts as an additional risk factor for unemployment in veterans with high mental health symptomology. A greater understanding regarding the risk and protective factors influencing veterans' transition and civilian employment success will allow for targeted and individualised service provision to better support the adjustment of our veterans to the civilian world.

Keywords: military transition, medical discharge, mental health, unemployment

Introduction

It has been estimated that approximately 5,000 Australian Defence Force personnel transition out of the military, either completely or into the Reserves, every year (Van Hooff et al., 2018). Transitioning from the military environment back to civilian life can be challenging for many members as they learn to cope with changes in their vocational and personal identity, relationships with significant others and differences in workplace expectations (Edwards, 2015). The presence of mental health conditions including Post-Traumatic Stress Disorder (PTSD), depression and substance abuse have been found to exacerbate these adjustment difficulties. Results from a recent Australian study indicated that approximately 46% of ADF members who had transitioned from service within five years prior to data collection, met the 12-month diagnostic criteria for a mental health disorder (Van Hooff et al., 2018). Poorer mental health and specifically the presence of PTSD symptoms has been associated with lower civilian employment participation (Iversen et al., 2005; Savoca & Rosenheck, 2000). Challenges in the availability and uptake of effective psychological and employment services has been noted in the veteran community (Abraham, Ganoczy, Yosef, Resnick & Zivin, 2014). Further exploration to better understand the facilitators and barriers impacting transition success, will assist Defence, the Department of Veteran's Affairs (DVA) and service providers to target veterans at greater risk of difficult adjustment upon military retirement.

The Military to Civilian Transition

Significant literature on civilian retirement exists; however, retirement from the military is yet to be extensively explored (Spiegel & Shults, 2003). The transition from military to civilian life can be challenging as a result of changes to occupation, finances, identity, social networks and interpersonal relationships (Bauer, Newbury-Birch, Robalino,

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Ferguson & Wigham, 2018). Some people seem to handle life transitions easily, whereas others may experience difficulties, impacting their quality of life, functioning, wellbeing, mental and physical health and the potential for unemployment (Coons, 2018; McGinty, 2014). Difficulties with re-entry can arise from the movement between different organisational cultures, relocation and deployments impacting on members' ability to maintain and sustain civilian networks, the effects of physical and psychological injuries, changes in housing and finances and the lack of communication and coordination between civilian service providers. (Gray, Wilson, Jenkins, Harrison & Martin, 2017; Herasingh, 2014).

Within a civilian context, research has uncovered factors such as higher income, better psychological and physical health, higher degree of mastery and favourable conditions of exit, to be related to better adjustment upon retirement (Donaldson, Earl & Muratore, 2010). Mastery, defined as the degree someone feels that they have control over what happens in their own life and the decisions they make, has been identified as a key psychosocial resource during retirement and has been linked with better wellbeing and employment outcomes (Donaldson, Earl & Muratore, 2010; MacLean et al., 2014; Waters, 2007).

The protective factor of mastery has also been investigated from a military transition perspective (MacLean et al., 2014). Hachey, Sundom, Sweet, MacLean and VanTil (2016) found, through their survey of Canadian veterans, that lower life stress, higher mastery, greater satisfaction with social support, lower number of health conditions and a higher sense of community belonging were associated with easier adjustment to civilian life. Even after controlling for health conditions and life stress, they still reported a significant effect of mastery and social support on ease of adjustment.

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Retirement from the military can occur either voluntarily, through resignation, voluntary redundancy or compulsory age retirement, or involuntarily for administration reasons or due to service-related physical or psychological injuries. Considering the impact of mastery on transition success, members who are involuntarily discharged due to medical reasons, may have a lower sense of mastery due to the lack of choice in their retirement. MacLean et al. (2014) found, through the administration of self-report surveys to veterans who had transitioned between 1998-2007, that difficult adjustment was higher in veterans who were medically discharged.

Along with the sense of mastery, social support, specifically from other veterans, has been identified as an important facilitator to successful adjustment to civilian life (Ahern et al., 2015; Eells, 2017; Hachey et al., 2016). Within Australia, ex-service organisations, such as the Returned and Services League (RSL), aim to facilitate veteran social engagement and connection following military retirement. Social support has also been found to protect against PTSD symptomology and is therefore recognised as a potential buffer against the development of mental health conditions (Coons, 2018; Van Voorhees et al., 2018). This protective role of social support has been used to explain why the presence of mental health conditions may not become apparent until after veterans have discharged from the military. Being a part of the military family and having connections with people with similar experiences may act as a protective factor, with any adverse impacts of service only becoming apparent when this buffer is removed (Coons, 2018).

The differences between military and civilian culture have been well documented in the literature. Members often report that the military is not just a workplace but rather a social system, which is generally isolated from the civilian world, where people have clearly defined roles and responsibilities (Spiegel & Shults, 2003). As many members enter the forces straight from secondary schooling, they may have developed self-knowledge in an

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occupational sense and may lose sight of their own interests, values and skills in the process of military training and service time (Edwards, 2015). Upon discharge members may experience an identity crisis or reverse culture shock, resulting in increased difficulty in their adjustment to the civilian world.

Service length in the military environment has been linked to adjustment success, though this is not a linear association. Difficult adjustment has been seen in people exiting the military mid-career (2-19 years' experience) compared to members serving less than two years or who had reached retirement age (MacLean et al., 2014). It is proposed that greater time in the military environment may make the adaptation to the civilian world more challenging. However, members with a longer service period may also leave the military at a higher rank. Previous research has shown that veterans who had a higher rank during their service report lower rates of difficult adjustment (MacLean et al., 2014).

One of the major barriers impacting transition success is the presence of mental health conditions. It has been reported that veterans have higher rates of mental illness compared to non-veterans, specifically PTSD. Twamley et al. (2013) reported that 37% of US veterans receive a mental health diagnosis, specifically 22% PTSD, 17% depression, 10% substance abuse and 20% mild traumatic brain injury. In their survey of US military veterans, McGinty (2014) identified the presence of PTSD symptoms as the most important predictor of transition difficulties. Within an Australian context, 46% of recently transitioned veterans met criteria for a 12-month mental disorder (Van Hooff et al., 2018).

Some researchers have sought to investigate the characteristics of veterans who are more likely to obtain a mental health diagnosis. Being younger and having a history of childhood adversity, including violence and trauma, has been linked with a greater likelihood for the development of mental health issues (Palmer et al., 2018; Van Voorhees et al., 2018).

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Deployment to an active war zone is also believed to increase the risk of PTSD (Coons, 2018). In addition to the impact of witnessing traumatic events, the deployment itself can be challenging for members as they are separated by time and space from their family, children and loved ones. When they return, discrepancies in their expectations and the reality of home life can be a shock, and requires the re-establishment of connections with the civilian world (Ahern et al., 2015; McGinty, 2014).

Although the presence of mental health conditions among the veteran community is high, engagement in health care and uptake of rehabilitation and employment services is reportedly low (Abraham et al., 2014). Changes in the provision of health care services and the need to proactively facilitate their own services in the civilian world can be confusing and challenging for members, particularly those with the greatest difficulties (Gray et al., 2017). A lack of information sharing and military cultural awareness in civilian health care providers can also cause frustration and barriers for veterans accessing services. The combination of elevated rates of mental health symptoms, and the low uptake of health care engagement highlights the importance of examining mental health in the context of veteran employment post-transition from military service.

Mental Health and Veteran Employment

There is extensive literature investigating the association between mental health and employment. Within the civilian context, research has shown that people with mental health conditions are less likely to be employed in the labour market (Evans & Repper, 2000; Frijters, Johnston & Shields, 2014). In the UK it is estimated that only 15% of people with a serious mental health problem are employed (Evans & Repper, 2000). Engagement in employment can provide a sense of belonging and purpose, where people can have opportunities to contribute to shared goals and obtain recognition for their efforts and

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achievements (Evans & Repper, 2000). Employment can improve people's quality of life, mental health, social networks, and provide greater social inclusion. The association between mental health conditions and unemployment has been attributed to a lack of understanding of mental health, leading to discrimination and exclusion from the labour market. Employers may think that people with mental health issues may be less productive and have more time off work, however research has found that this isn't necessarily the case (Evans & Repper, 2000).

Australian based studies have confirmed the link between the presence of mental health symptoms and unemployment. Using longitudinal data, Frijters, Johnston and Shields (2014) found that a decline in mental health scores reduced the likelihood of employment by 30%. Their results indicated that people with poor mental health had lower employment rates by 12%. Using the same data source, Olesen, Butterworth, Leach, Kelaher and Pirkis (2013) investigated the link between mental health and employment from a reverse causality perspective. They found that mental health was both a consequence and risk factor for unemployment and concluded that poorer mental health is evident in unemployed people, which is due to the unemployment itself and pre-existing mental health issues. Investigations into the negative effect of unemployment have found that following greater than two spells of unemployment, or a period greater than three months of unemployment, no further decline in mental health symptomology is noted, suggesting that people may become desensitised (Milner, Spittal, Page & LaMontagne, 2014; Warr & Jackson, 1985). Upon re-employment, participants' mental health appears to improve considerably (Warr & Jackson, 1985).

Consistent with research in the civilian space, veterans with mental health conditions are also more likely to be unemployed or working in a part-time capacity and have lower earnings compared with non-veteran peers (Anderson & Mitchell, 1992; Hamilton, Williams

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& Washington, 2015; Iversen et al., 2005; Kukla, Rattray & Salyers, 2015). Veterans with mental health issues are more likely to be unemployed or retired than other veterans of the same era (Abraham et al., 2014). Investigating a sample of Vietnam Veterans, Savoca and Rosenheck (2000) found that the presence of PTSD symptoms significantly lowered veterans' likelihood of working and their hourly wages by 16%. Generally, all psychiatric disorders had a negative impact on the probability of employment. Burnette-Zeigler et al. (2011) found, in their study of 585 US National Guard service members, that only 41% were employed 45-60 days after separation from the military and 79% of those who were employed were working in a full-time capacity. Veterans who were younger, had a lower education level, lower family income and poorer mental health status were less likely to be employed. Interestingly they found that multiple deployments and recent combat exposure were positively associated with the likelihood of employment. This result is surprising given that combat exposure is known to increase the likelihood of PTSD and mental health conditions, both of which are negatively associated with employment. Burnette-Zeigler et al. (2011) suggested that the deployment variable may have been influenced by age, as older veterans were more likely to have multiple deployments and were also more likely to be employed.

In addition to the impact of mental health on employment outcomes in veterans, many have noted that the perception and value of military training, skills and experience may influence civilian employers' decisions to hire veterans (Kleykamp, 2009). Challenges in translating military skills into civilian language that employers understand may contribute to difficulties in this respect, as well as the tendency for veterans to de-emphasise their skills and fail to highlight their leadership and management experience (Edwards, 2015). Higher education level in veterans has been associated with better civilian employment outcomes, including higher wages (Burnette-Zeigler et al., 2011). Obtaining a tertiary education may

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reduce the difficulties translating military skills to the civilian labour market, or additionally, having a higher education level may buffer against the impact of mental health on unemployment in veterans.

Gender differences have also been identified, with female veterans having a higher chance of being unemployed compared with their male counterparts (Kleykamp, 2013). Hamilton, Williams and Washington (2015) reported the unemployment rate among US women veterans in 2010 to be 11.2%, which was higher than male veterans (9.4%) and civilian women (8.3%). A positive screening for depression was also found to exacerbate unemployment in women veterans by five times.

With the reported higher rates of unemployment in the veteran community, there has been a recent push for the implementation of assistance programs to aid veterans to locate and sustain civilian employment following military discharge. In countries such as the US, UK and Australia, there are many employment assistance options, such as career counselling, supported employment, subsidised education schemes, and incentives for civilian employers to hire veterans (Schulker, 2017). Even though the support options are available, the utilisation of these services has been limited in the veteran community, potentially due to limited integration and coordination of services, a lack of military cultural awareness in service providers and perceived stigma (Van Hooff et al., 2018). Analysing data obtained from the US based Veteran Health Administration, Abraham et al. (2014) found that only 4.2% of veterans with psychiatric disorders received employment services.

Australian Veteran Outcomes

Much of the research on military transition to date has been based in the US or UK. Very little is currently known about veterans transitioning from the Australian Defence Force and to address this gap, in 2015 the Department of Defence and Department of Veteran

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Affairs (DVA) funded the Transition and Wellbeing Research Programme (the Programme). The Programme aimed to examine the effects of military service on health outcomes for currently serving and ex-serving members/veterans and their families. In 2017, the Australian Institute of Health and Welfare (AIHW) also established a four-year program to build a detailed profile of the health and welfare of the veteran population in Australia. Results from the Programme indicated that 84% of veterans at the time of survey were engaged in employment or purposeful activities. However, 44% of veterans reported having periods of unemployment greater than 3 months since leaving military service.

The Mental Health Prevalence and Pathways to Care Summary Report, forming part of the Programme, was released in 2018 and identified several factors influencing mental health outcomes for members who had transitioned from the ADF. At the time of the report, approximately 46% of ADF members who had transitioned from service within the last five years, met the 12-month diagnostic criteria for a mental health disorder. Ex-service personnel self-reported greater psychological distress, depression, anxiety, anger, suicidality and alcohol use compared with currently serving members, highlighting the barriers and challenges facing veterans leaving full-time service. These findings support the concept that having served recently in the military acts as a protective factor from the development of mental health conditions, with better mental health found in veterans who had transitioned less than 12 months prior to data collection (Coons, 2018). As the years since transition progressed, mental health deteriorated, although this was not a linear relationship and varied according to the specific mental health disorder.

Veterans who had medically discharged were also found to be at greater risk of mental health concerns. This result was not surprising as poorer general health is associated with lower psychological wellbeing (Hachey et al., 2016). The role of mastery and choice in the retirement process for veterans who medically discharged may also influence the

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emergence of mental health conditions due to the association between low mastery and high adjustment difficulties (MacLean et al.; 2014; Hachey et al., 2016). Similarly, veterans who were a DVA client had significantly higher rates of mental health concerns compared to those who were not. This is likely to reflect DVA being the conduit of care for veterans, and those identified as a DVA client may have submitted injury claims and/or be seeking compensation and support services.

The Mental Health Prevalence report found that the prevalence of PTSD was higher in the Army and Air Force compared with the Navy (MacLean et al., 2014; Van Hooff et al., 2018). This result is consistent with overseas research and has been attributed to the type of roles and operational engagement required. For example, Army personnel facilitate ground operations and are more likely to encounter combat situations involving adversaries. In relation to rank, non-commissioned officers (lower rank) reported higher anxiety symptoms. Anxiety disorders were also more common in veterans who had been deployed compared with veterans who hadn't deployed.

In line with previous research outlining members transitioning mid-career experienced the most difficulty, the Mental Health Prevalence report found that affective disorders were highest in veterans serving between 1-12 years and anxiety the highest among those serving 3 months – 3.9 years and 8-11.9 years compared with service tenure between 4-8 years and greater than 12 years (MacLean et al., 2014; Van Hooff et al., 2018). Subsequently, veterans 58 years and above had the lowest prevalence of mental health issues, with alcohol problems more common in the younger age group of 18-47 years. There were no significant differences between genders in the prevalence rates of mental health conditions.

As outlined, there are many barriers and challenges facing veterans transitioning from military to civilian life. The presence of mental health conditions, specifically PTSD, has

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been consistently found to negatively impact employment outcomes. The relationship between mental health and employment has been extensively explored in civilian literature; however, there is a lack of research on this relationship within the veteran population, especially within Australia. Addressing this gap in literature is therefore warranted to further understand employment outcomes in veterans with mental health conditions.

The Mental Health Prevalence report outlines the need for further examination of the risk and protective factors influencing successful civilian employment outcomes. Medical discharge and engagement with DVA have been associated with greater mental health conditions, with symptomology increasing in the years following transition (Van Hooff et al., 2018). Difficult adjustment to civilian life has also been associated with lower education, deployment/s overseas and longer service time. Further exploration of the impact of these service and transition factors on employment outcomes will be useful in guiding service providers to identify and target veteran cohorts who are at greater risk of unemployment, and subsequent deterioration in mental health. Service provision can therefore be specifically tailored to improve transition outcomes for Australian veterans leaving the military.

Study Aims

This study firstly aims to examine the relationship between mental health and unemployment within the Australian Defence Force transitioned members. Measuring depression, PTSD, psychological distress, anxiety, alcohol abuse and anger, it is hypothesised that:

H1a: As scores on all mental health measures increase, the likelihood of unemployment will significantly increase.

Furthermore, given the higher prevalence of PTSD in the veteran community and the relationship between PTSD, military services and social support, it is hypothesised that:

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H1b: PTSD will yield a larger effect on the likelihood of unemployment when all mental health measures are combined.

Secondly, this study aims to investigate whether service and transition variables, including medical discharge, DVA client status, time since transition, years of service, education level and deployment, are also associated with the likelihood of civilian unemployment. Previous research has identified these factors as important in transition adjustment; however, there is limited research on their direct relationship with unemployment in the Australian veteran population. It is hypothesised that:

H2a: Veterans who have medically discharged will have a greater likelihood of unemployment

H2b: Veterans who were recorded as a DVA client will have a greater likelihood of unemployment

H2c: As the years since transition increase the likelihood of unemployment will also increase

H2d: As the number of years served in the military increase, the likelihood of unemployment will also increase

H2e: Veterans with lower education will have a greater likelihood of unemployment

H2f: As the number of deployments increase, the likelihood of unemployment will also increase

To further explore the impact of education, service and transition variables and mental health on employment outcomes, interaction effects will be examined. Specifically, the potential protective role of education level will be explored in relation to mental health and likelihood of unemployment. It is hypothesised that:

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H3a: Higher education will act as a protective factor for unemployment in veterans with greater mental health symptomology such that with higher education, the relationship between mental health symptoms and unemployment will be reduced.

Additionally, given the literature focussing on the relationship between mastery and transition success, the interaction between medical discharge (potentially serving as an indicator of reduced mastery) and mental health on the likelihood of unemployment will be investigated. It is hypothesised that:

H3b: Non-medical discharge will act as a protective factor for veterans with greater mental health symptomology, such that under conditions of non-medical discharge, the association between mental health symptoms and likelihood of unemployment will be reduced.

Method

The data for this study has been obtained from the Mental Health and Wellbeing Transition Study, which is one of three main studies contributing to the Transition and Wellbeing Research Programme, funded by the Department of Defence and Department of Veterans Affairs. Ethical approval for the use of data collected from this programme was obtained from the Department of Defence and Veterans' Affairs Human Research Ethics Committee.

Participants

The participants sampled in this study were previous Australian Defence Force members, who had transitioned from full-time military service between 2010 and 2014. For the purposes of the current analyses, only members completely discharged from service were

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included, with those transitioned into the Active and Inactive Reserves excluded from the final sample. There were 23,974 transitioned ADF members initially invited to participate in Phase 1 of the Mental Health and Wellbeing Transition Study, which involved the completion of a self-report questionnaire. Of those invited, 4326 transitioned veterans (including ex-serving, active and inactive reservists) participated in the study, representing an 18% response rate. Transitioned ADF members were more likely to participate in the study if they were from the Army (56.9%) (rather than Air Force (23.1%) or Navy (19.9%)). The sample was predominantly male (84.3%), consistent with the Transitioned ADF population; however, females were significantly more likely to respond than males. After limiting to only ex-serving, and the exclusion of cases missing data on critical measures, 1096 participants were included in the analysis sample.

Measures

Respondents were asked to complete a 60-minute self-report questionnaire, specifically developed for Mental Health and Wellbeing Transition Study, which collected a range of demographic information, including engagement in services, medical conditions, family and social support, and measured the presence of mental health symptomology. The use of self-report measures can provide useful information regarding the presence of symptoms related to mental health conditions. For the purposes of this study, select information from the survey was utilised, specifically measures focussing on mental health, employment outcomes and a range of demographic factors.

Mental Health Measures. To measure psychological distress, participants completed the Kessler Psychological Distress Scale (K10). The 10-item survey questioned participants on their anxiety and depressive symptoms experienced in the past four weeks. Items were scored from one to five and were summed to give a total score between 10 and 50. Categories

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of low (10-15), moderate (16-21), high (22-29) and very high (30-50) were used to identify the levels of psychological distress. Example questions included, “in the past four (4) weeks, about how often did you feel hopeless?”, “in the past four (4) weeks, about how often did you feel nervous”.

Participants completed the Post Traumatic Stress Disorder Checklist – civilian version (PCL-C) to measure the severity of PTSD symptoms. The PCL is a 17-item self-report measure that has been used to screen PTSD symptoms in clients within clinical and research settings. An additional four questions were included from the newly released PCL-5 to allow measurement according to the most recent diagnostic criteria, as outlined in the DSM-5. Questions were scored from one to five and were summed to give a total score between 17 and 85. Examples questions included, “repeated, disturbing dreams of a stressful experience from the past”, “feeling distant or cut off from other people”.

To measure anxiety symptoms, not specifically PTSD related, participants completed the Generalized Anxiety Disorder-7 (GAD-7), a seven-item screening tool for the presence and severity of anxiety symptoms. Participants were asked to rate whether they were bothered by problems, such as “trouble relaxing”, “becoming easily annoyed or irritable”, within the past two weeks. The items were scored from one to three and were summed provide a total generalised anxiety score ranging between zero and 21.

The presence of depression symptoms was measured by the Patient Health Questionnaire (PHQ-9) depression module. Participants were asked to rate how bothered they had been in the past two weeks for problems such as “feeling tired or having little energy”, “poor appetite or overeating”. The questions directly relate to the DSM-5 criteria for depression. The nine items were scored from zero to three and were summed to give a total

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PHQ score between zero and 27, with higher PHQ scores indicating greater levels of depressive symptoms.

Anger was also measured in the Mental Health and Wellbeing Transition Study due to its association with PTSD and the impact on interpersonal relationships and subsequent recovery from traumatic events. The Dimensions of Anger Reactions scale (DAR-5) was used to measure the severity of anger, including frequency, intensity, duration, aggression and interference with social functioning. Participants rating the amount of time they felt anger during the past four weeks on five items. Examples of items included, “when I got angry, I got really mad”, “when I got angry at someone, I wanted to hit them”. Items were scored on a five-point scale and were summed to provide a total DAR score ranging from five to 25, with higher scores indicating higher anger symptomology. This measure has been used to assess Australian, US and Iraq veterans previously and has demonstrated high levels of internal consistency and validity (Van Hooff et al., 2018).

The presence of problematic alcohol consumption was measured using the Alcohol Use Disorders Identification Test (AUDIT). The AUDIT is a screening tool developed by the World Health Organisation (WHO), and consists of 10 self-report items examining to quantity and frequency of alcohol consumption and related problems. The WHO outlines four bands of risk: Band 1 (scores of 0-7) representing those who would benefit from education regarding alcohol use, Band 2 (scores 8-15) representing those requiring some simple advice, Band 3 (scores of 16-19) representing those participants who would require counselling and monitoring and Band 4 (scores of 20-40) representing participants who require evaluation and treatment for alcohol related problems.

Demographic, transition and service measures. Participants were asked a range of demographic questions including their age, gender, Service (Army/Airforce/Navy), rank

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(non-commissioned/commissioned/other), years of service, years since transition, whether they were engaged in DVA services or not, level of education (secondary/tertiary) and reason for discharge (coded into medical or non-medical discharge). Within the Mental Health and Wellbeing Transition Study, participants were asked to complete 44 items related to medical problems or conditions they had been diagnosed with or treated by a doctor for over their lifetime. These items were taken from the 2011 Australian Gulf War Veterans Health Study follow-up (Van Hooff et al., 2018). For the purposes of this study, only the number of conditions reported were included in further analyses. The number of deployments and number of ex-service organisations participants were engaged with were also recorded and although not included in the analyses, they were utilised to describe the population. In addition, participants were asked to rate their financial situation as being either ‘prosperous’, ‘very comfortable’, ‘reasonably comfortable’, ‘just getting along’, ‘poor’ or ‘very poor’. Scores were coded 1-6 accordingly.

Outcome variable. The outcome variable for this study was whether or not participants were currently employed within a civilian workplace. Participants responded yes or no to the question, “Do you currently have a civilian job?”. Other employment variables, not specifically included in the model, but used to describe the working veteran population included whether or not they had experienced a period of unemployment greater than three months, on average how many hours per week they were working in their civilian job, how many days in the last week their symptoms caused them to miss work or leave due to being unable to carry out normal daily responsibilities and how many days in the last week they felt so impaired by their symptoms their productivity was reduced.

Design

This study utilised data obtained from Phase 1 of the Mental Health and Wellbeing Transition Study where participants completed a 60-minute self-report survey. Information gathered from the survey provided cross-sectional information relating to mental health measures, employment status at the time of survey and demographic information. The Mental Health and Transition Study surveyed both Transitioned ADF and 2015 Regular ADF members, however, for the purposes of this study focussing on civilian employment only data from the Transitioned cohort were included.

Procedure

The Centre for Traumatic Stress Studies (CTSS), University of Adelaide, promoted the Transition and Wellbeing Study through several channels prior to the collection of data. This included developing and displaying promotional posters that were advertised in Service newspapers, DVA, Defence and university websites and on service bases. Ex-service organisations were also sent a letter of introduction regarding the Programme, briefing packs and promotional material. In June 2014, DVA issued a media release launching the Programme and information sessions were held within the ADF about the importance of the research. Additionally, the Programme was advertised through social media to raise awareness of the research.

Participants contact details were obtained from the Military and Veteran Health Research Study Roll, which was created and held by the AIHW. Information from a range of sources including, Defence's PMKeyS database, DVA client database, the National Death Index (NDI), ComSuper's member database and the MilHOP dataset were integrated to form this study roll. DVA and Defence contacted participants via email, hard copy letters and media informing them about the purpose of the Study Roll and details about how to opt-out

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of receiving further information. If people decided to opt-out of the Study Roll, they were not included in sampling. To ensure that families of deceased members were not contacted, the Study Roll was cross-checked against the NDI prior to data collection.

Once the Study Roll (as described above) was finalised, invitations to participate were sent by CTSS. Invitation emails were sent in batches, with the first distributed in June 2015. Participants were sent a unique study ID number, password and a secure link to the online invitation pack, which included the self-report survey and associated materials such as consent forms and information sheets outlining confidentiality, ethical approval and support services available. Hard copy versions of the pack were sent to participants without email addresses. To follow up participants who had not responded, reminder emails and SMS's were sent at two, four and six weeks after the invitation pack was sent and one month prior to the survey closing.

Statistical Analysis

The dataset was limited to ex-serving ADF members only. Further to this, cases that were missing data on the main variables of interest, including mental health, transition, service and control variables, were excluded from the final analysis sample. To measure the association between mental health, transition and military variables, and the employment outcome, a series of univariate binary logistic regressions were conducted to examine individual associations, controlling for age, gender, rank, service and number of doctor diagnosed health conditions. All significant predictors were then included in a multivariate model, to assess their unique contribution to unemployment. Finally, the multiplicative effects of mental health indicators and service, education and transition factors were examined. Regression results are presented as odds ratios with 95% confidence intervals.

Results

Sample Characteristics

The analysis sample consisted of 1096 Transitioned ADF members, 912 males (83.2%) and 184 (16.8%) females. Participants were aged between 19-69 years ($M = 40.96$, $SD = 11.67$). The sample consisted of 556 (50.7%) non-commissioned officers, while the remainder (49.3%) were commissioned officers or officers of other ranks. Most participants had served in the Army ($n = 684$, 62.4%), with 225 having served in the Navy (20.5%) and 187 in the Air Force (17.1%). The majority (73.8%) had completed tertiary level education, while 26.2% had only completed secondary/high school level. There were 605 (55.2%) participants who reported that they were medically discharged from service, with 491 (44.8%) reporting they left service for other reasons. There were 777 (70.9%) who were known to DVA, while 319 (29.1%) had reported no contact with DVA. Mean length of service was 14.22 years ($SD = 10.45$) and the mean time since transition was 2.67 years ($SD = 1.65$). The mean number of doctor diagnosed health conditions in the sample was 2.75 ($SD = 4.40$), with 32.9% reporting no health conditions and 84.8% of the sample reporting five or less diagnosed health conditions.

Table 1 shows the demographic characteristics for those employed and unemployed. It can be seen that approximately half ($n = 544$, 49.6%) of the sample reported that they were currently unemployed at the time of the survey, while 552 (50.4%) reported engagement in some level of paid employment. Of the participants who were employed, 29.9% reported that they had a period of unemployment greater than three months since their transition, compared with 70.1% of the unemployed group. Participants who were employed also reported significantly lower financial strain ($M = 3.32$, $SD = 0.77$) compared with unemployed veterans ($M = 3.79$, $SD = 0.90$, $p < .001$). Interestingly, 42.54% of unemployed participants

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reported engagement with one or more ex-service organisation, whereas only 28.60% of employed participants reported engagement with an ex-service organisation. Although the difference in means was statistically significant ($p < .001$), the overall engagement in ex-service organisations was very low, with 64.40% of participants across both groups reporting no engagement with ex-service organisations. Of the participants who were employed, the mean number of reported days missed due to mental health symptoms was 0.51 days per week ($SD = 1.25$) with a mean of 1.25 days of reduced productivity in the last week ($SD = 1.91$). The employed participants worked a mean of 40.68 hours per week ($SD = 19.89$).

Table 1.

Characteristics of transitioned ADF participants by civilian employment status

	Employed (n = 552)	Unemployed (n = 544)	p
<i>Demographic/control variables</i>			
Age	$M = 38.31 (SD = 10.37)$	$M = 43.66 (SD = 12.30)$	$< .001^*$
Gender: Male	$n = 457$	$n = 455$	
Female	$n = 95$	$n = 89$	
Service: Army	$n = 358$	$n = 326$	
Navy	$n = 101$	$n = 124$	
Air Force	$n = 98$	$n = 94$	
Ranks: NCO	$n = 268$	$n = 288$	
CO/other	$n = 284$	$n = 256$	
Number of doctor dx conditions	$M = 1.94 (SD = 4.10)$	$M = 3.56 (SD = 4.54)$	$< .001^*$
<i>Mental health variables</i>			
Psychological distress (K10)	$M = 19.55 (SD = 9.53)$	$M = 26.88 (SD = 11.18)$	$< .001^*$
PTSD (PCL)	$M = 31.68 (SD = 15.27)$	$M = 45.78 (SD = 20.54)$	$< .001^*$
Anxiety (GAD)	$M = 5.81 (SD = 5.54)$	$M = 10.07 (SD = 6.76)$	$< .001^*$
Depression (PHQ)	$M = 7.46 (SD = 6.69)$	$M = 13.81 (SD = 8.46)$	$< .001^*$
Anger (DAR)	$M = 9.81 (SD = 4.96)$	$M = 12.74 (SD = 5.69)$	$< .001^*$
Alcohol disorder (AUDIT)	$M = 7.53 (SD = 6.65)$	$M = 8.89 (SD = 8.52)$	$.003^*$
<i>Education and service variables</i>			
Years of service	$M = 11.89 (SD = 9.14)$	$M = 16.58 (SD = 11.15)$	$< .001^*$
Education level: Secondary	$n = 121$	$n = 166$	
Tertiary	$n = 431$	$n = 378$	
<i>Transition variables</i>			

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Years since transition	$M = 2.77 (SD = 1.66)$	$M = 2.57 (SD = 1.64)$.043*
Medical discharge (yes)	$n = 215$	$n = 390$	
DVA client (yes)	$n = 328$	$n = 449$	
Employment/other variables			
Period of unemployment >3 months (yes)	29.9%	70.1%	
Engagement in ESO's (1 or more)	28.6%	42.54%	< .001*
Financial strain	$M = 3.32 (SD = 0.77)$	$M = 3.79 (SD = 0.90)$	< .001*

* $p < .05$

Univariate Analyses

Mental health factors. In univariate analyses, all mental health indicators were significantly associated with unemployment, supporting Hypothesis 1a. The mean level of psychological distress (K10) in the sample was 23.19 ($SD = 11.00$), with odds of unemployment significantly higher with each unit increase in K10 scores ($OR = 1.07, p < .001$). The mean level of posttraumatic stress symptoms (PCL) in the sample was 38.68 ($SD = 19.40$). Post-traumatic stress (PTS) symptoms were significantly related to the odds of being in the unemployed group ($OR = 1.05, p < .001$). As the number and severity of PTS symptoms increased, the more likely participants were to be unemployed. Mean anxiety (GAD) in the sample was 7.92 ($SD = 6.53$), with the odds of unemployment significantly higher with each unit increase in GAD scores ($OR = 1.12, p < .001$). The mean depression score in the sample was 10.61 ($SD = 8.25$). With each unit level increase in PHQ scores, the odds of participants being in the unemployed group increased ($OR = 1.12, p < .001$). The mean level of anger (DAR-5) was 11.27 ($SD = 5.53$). As anger increased, the odds of unemployment also significantly increased ($OR = 1.12, p < .001$). The mean score on the AUDIT was 8.21 ($SD = 7.66$), and as AUDIT scores increased, the odds of unemployment also significantly increased ($OR = 1.03, p < .001$).

Education and service factors. The odds of being unemployed significantly increased with each year increase in service ($OR = 1.03, p = .007$), supporting Hypothesis 2d.

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Participants who had completed tertiary education were less likely to be unemployed, whereas participants who had only completed secondary/high school level education had greater odds of being unemployed ($OR = 0.57, p < .001$). This result was consistent with Hypothesis 2e. As the number of deployments increased, the odds of being in the unemployment group increased ($OR = 1.12$), although this was not significant. Hypothesis 2f was not supported.

Transition factors. Contrary to hypothesis 2c, the results from the univariate logistic regressions showed that as the years since transition increased, the less likely participants were to be unemployed ($OR = 0.91, p = .017$). Participants who were medically discharged, were four times more likely to be unemployed ($OR = 4.43, p < .001$). In addition, veterans who were engaged with DVA were 2.89 times more likely to be unemployed at the time of survey ($OR = 2.89, p < .001$). The results confirmed the predicted outcomes, with Hypothesis 2a and 2b supported in the univariate analyses.

Multivariable Analysis

As shown in Table 2, when all significant predictors were included in a multivariable model, for mental health indicators, only posttraumatic stress ($p = .002$), anxiety ($p = .024$), and depression ($p = .001$) retained a significant association with unemployment, supporting Hypothesis 1b. The association between unemployment and level of education, years of service and medical discharge also remained significant. Interestingly, the direction of association for anxiety reversed in the final model. Greater anxiety was associated with lower odds of unemployment. The change in direction may be attributed to multicollinearity effects, where anxiety could have interacted with other independent variables in the model, such as other mental health measures. The overall impact of anxiety on the likelihood of unemployment is therefore most likely negligible.

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Table 2.

Odds ratios for predictor variables on the probability of unemployment

	Univariate odds ratios		Multivariable odds ratio	
	Odds ratio (95% CI)	P	Odds ratio (95% CI)	p
<i>Mental Health Variables</i>				
Psychological distress (K10)	1.07 (1.06-1.09)	<.001*	1.02 (0.99-1.04)	.241
PTSD (PCL)	1.05 (1.04-1.05)	<.001*	1.02 (1.01-1.04)	.002*
Anxiety (GAD)	1.12 (1.10-1.15)	<.001*	0.94 (0.89-0.99)	.024*
Depression (PHQ)	1.12 (1.10-1.14)	<.001*	1.08 (1.03-1.12)	.001*
Anger (DAR)	1.12 (1.10-1.15)	<.001*	1.00 (0.96-1.04)	.801
Alcohol disorder (AUDIT)	1.03 (1.01-1.05)	.001*	0.99 (0.97-1.01)	.190
<i>Education and service variables</i>				
Years of service	1.03 (1.01-1.05)	.007*	1.03 (1.01-1.06)	.004*
Education level	0.57 (0.43-0.76)	<.001*	0.60 (0.43-0.83)	.002*
<i>Transition Variables</i>				
Years since transition	0.91 (0.84-0.98)	.017*	0.93 (0.85-1.01)	.078
Medical discharge	4.43 (3.37-5.83)	<.001*	2.53 (1.83-3.50)	<.001*
DVA client	2.89 (2.15-3.89)	<.001*	1.22 (0.86-1.74)	.260

* $p < .05$

**predicted probability is of membership for unemployed

** All analyses adjusted for sex, rank, service, age and number of doctor diagnosed conditions

Interaction Analyses

To determine whether there were multiplicative effects of any of the significant predictors in the model, a series of interaction terms were explored.

Education level and mental health. There were no significant modification effects of education on the relationship between mental health measures, PHQ, PCL and GAD, and the probability of unemployment (see Table 3, Table 4 and Table 5). Hypothesis 3a was therefore not supported.

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Table 3.

Multivariable analysis including the interaction between education level and PCL on the probability of unemployment

	Multivariable odds ratios	
	Odds ratio (95% CI)	P
<i>Mental Health Variables</i>		
Psychological distress (K10)	1.02 (0.99-1.05)	.251
PTSD (PCL)	1.03 (1.01-1.05)	.003*
Anxiety (GAD)	0.94 (0.89-0.99)	.023*
Depression (PHQ)	1.08 (1.03-1.13)	.001*
Anger (DAR)	0.99 (0.96-1.04)	.777
Alcohol disorder (AUDIT)	0.99 (0.97-1.01)	.203
<i>Education and service variables</i>		
Years of service	1.03 (1.01-1.06)	.004*
Education level	0.81 (0.39-1.70)	.571
<i>Transition Variables</i>		
Years since transition	0.92 (0.85-1.01)	.070
Medical discharge	2.55 (1.85-3.52)	<.001*
DVA client	1.22 (0.86-1.74)	.261
<i>Interaction Variable</i>		
PCL x Education level	0.99 (0.98-1.01)	.384

* $p < .05$

**predicted probability is of membership for unemployed

** All analyses adjusted for sex, rank, service, age and number of doctor diagnosed conditions

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Table 4.

Multivariable analysis including the interaction between education level and PHQ on the probability of unemployment

	Multivariable odds ratios	
	Odds ratio (95% CI)	P
<i>Mental Health Variables</i>		
Psychological distress (K10)	1.02 (0.99-1.04)	.241
PTSD (PCL)	1.02 (1.01-1.04)	.002*
Anxiety (GAD)	0.94 (0.89-0.99)	.024*
Depression (PHQ)	1.09 (1.03-1.15)	.002*
Anger (DAR)	0.99 (0.96-1.04)	.782
Alcohol disorder (AUDIT)	0.99 (0.97-1.01)	.205
<i>Education and service variables</i>		
Years of service	1.03 (1.01-1.06)	.004*
Education level	0.70 (0.41-1.22)	.210
<i>Transition Variables</i>		
Years since transition	0.92 (0.85-1.01)	.073
Medical discharge	2.55 (1.84-3.52)	<.001*
DVA client	1.22 (0.86-1.74)	.259
<i>Interaction Variable</i>		
PHQ x Education level	0.99 (0.95-1.03)	.471

* $p < .05$

**predicted probability is of membership for unemployed

** All analyses adjusted for sex, rank, service, age and number of doctor diagnosed conditions

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Table 5.

Multivariable analysis including the interaction between education level and GAD on the probability of unemployment

	Multivariable odds ratios	
	Odds ratio (95% CI)	P
<i>Mental Health Variables</i>		
Psychological distress (K10)	1.02 (0.99-1.04)	.243
PTSD (PCL)	1.02 (1.01-1.04)	.002*
Anxiety (GAD)	0.96 (0.90-1.03)	.257
Depression (PHQ)	1.08 (1.03-1.13)	.001*
Anger (DAR)	0.99 (0.95-1.04)	.759
Alcohol disorder (AUDIT)	0.99 (0.97-1.01)	.220
<i>Education and service variables</i>		
Years of service	1.03 (1.01-1.06)	.004*
Education level	0.79 (0.47-1.33)	.380
<i>Transition Variables</i>		
Years since transition	0.92 (0.85-1.01)	.067
Medical discharge	2.57 (1.86-3.55)	<.001*
DVA client	1.22 (0.86-1.73)	.273
<i>Interaction Variable</i>		
GAD x Education level	0.97 (0.92-1.02)	.176

* $p < .05$

**predicted probability is of membership for unemployed

** All analyses adjusted for sex, rank, service, age and number of doctor diagnosed conditions

Medical discharge and mental health. Each mental health measure (PCL, PHQ and GAD) significantly modified the effect of medical discharge on unemployment (see Table 6, Table 7 and Table 8). Specifically, having a medical discharge was only associated with increased odds of unemployment when PHQ, PCL and GAD scores were high. This result implies that medical discharge serves as an additional risk factor for veterans with greater mental health symptomology. The individual effects of medical discharge and mental health

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measures, specifically PCL and PHQ, on the probability of unemployment in each analysis was reduced, suggesting that the interaction between medical discharge and mental health accounts for a large proportion of the variance in the relationship between medical discharge and unemployment as well as mental health (PCL and PHQ) and unemployment. Although statistically significant, the interaction effect between GAD scores and medical discharge on unemployment was minimal and as illustrated in Figure 3, there was very little meaningful difference between the groups. Hypothesis 3b was supported, with results indicating that non-medical discharge acted as a protective factor for unemployment.

The results from the multivariable analysis, which include the interactions between medical discharge and mental health measures (PCL, PHQ and GAD), are shown in Table 6, Table 7 and Table 8. The interactions effects are also illustrated in Figure 1, Figure 2 and Figure 3 and show that for veterans with higher scores on the mental health measures, medical discharge was associated with a higher probability of unemployment.

Table 6.

Multivariable analysis including the interaction between medical discharge and PCL on the probability of unemployment

	Multivariable odds ratios	
	Odds ratio (95% CI)	P
<i>Mental Health Variables</i>		
Psychological distress (K10)	1.02 (0.99-1.04)	.233
PTSD (PCL)	1.00 (0.98-1.02)	.747
Anxiety (GAD)	0.94 (0.88-0.99)	.019*
Depression (PHQ)	1.08 (1.04-1.13)	<.001*
Anger (DAR)	1.00 (0.96-1.04)	.997
Alcohol disorder (AUDIT)	0.98 (0.96-1.01)	.142
<i>Education and service variables</i>		
Years of service	1.03 (1.01-1.06)	.004*
Education level	0.58 (0.42-0.81)	.001*

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<i>Transition Variables</i>		
Years since transition	0.94 (0.86-1.02)	.150
Medical discharge	0.86 (0.43-1.72)	.663
DVA client	1.27 (0.89-1.80)	.182
<i>Interaction Variable</i>		
PCL x Medical discharge	1.03 (1.01-1.05)	.001*

* $p < .05$

**predicted probability is of membership for unemployed

** All analyses adjusted for sex, rank, service, age and number of doctor diagnosed conditions

Figure 1.

The interaction effect between PCL scores and medical discharge on the probability of unemployment

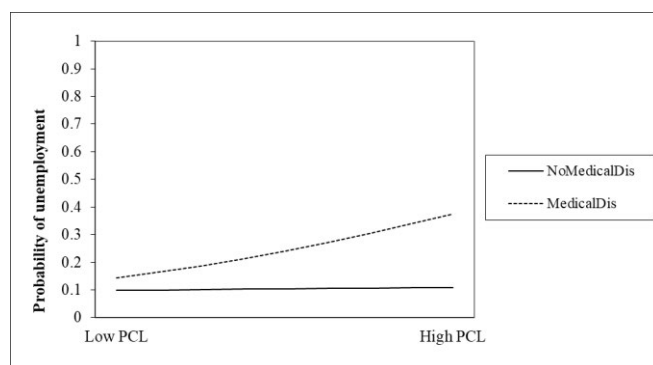


Table 7.

Multivariable analysis including the interaction between medical discharge and PHQ on the probability of unemployment

	Multivariable odds ratios	
	Odds ratio (95% CI)	P
<i>Mental Health Variables</i>		
Psychological distress (K10)	1.02 (0.99-1.04)	.275
PTSD (PCL)	1.03 (1.01-1.04)	.002*
Anxiety (GAD)	0.94 (0.89-0.99)	.024*
Depression (PHQ)	1.03 (0.98-1.08)	.236

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Anger (DAR)	1.00 (.96-1.04)	.988
Alcohol disorder (AUDIT)	0.98 (0.96-1.01)	.147
<i>Education and service variables</i>		
Years of service	1.03 (1.01-1.06)	.004*
Education level	0.59 (0.42-0.81)	.001*
<i>Transition Variables</i>		
Years since transition	0.94 (0.87-1.03)	.183
Medical discharge	1.28 (0.78-2.11)	.328
DVA client	1.28 (0.90-1.82)	.171
<i>Interaction Variable</i>		
PHQ x Medical discharge	1.07 (1.03-1.12)	<.001*

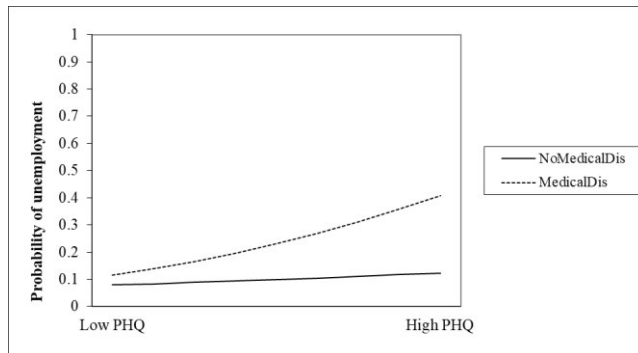
* $p < .05$

**predicted probability is of membership for unemployed

** All analyses adjusted for sex, rank, service, age and number of doctor diagnosed conditions

Figure 2.

The interaction effect between PHQ scores and medical discharge on the probability of unemployment



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Table 8.

Multivariable analysis including the interaction between medical discharge and GAD on the probability of unemployment

	Multivariable odds ratios	
	Odds ratio (95% CI)	P
<i>Mental Health Variables</i>		
Psychological distress (K10)	1.02 (0.99-1.05)	.207
PTSD (PCL)	1.02 (1.01-1.04)	.004*
Anxiety (GAD)	0.89 (0.84-0.95)	<.001*
Depression (PHQ)	1.08 (1.03-1.13)	.001*
Anger (DAR)	1.00 (0.96-1.01)	.951
Alcohol disorder (AUDIT)	0.99 (0.96-1.01)	.156
<i>Education and service variables</i>		
Years of service	1.03 (1.01-1.06)	.004*
Education level	0.58 (0.42-0.81)	.001*
<i>Transition Variables</i>		
Years since transition	0.94 (0.86-1.03)	.173
Medical discharge	1.41 (0.88-2.27)	.151
DVA client	1.27 (0.90-1.81)	.179
<i>Interaction Variable</i>		
GAD x Medical discharge	1.09 (1.03-1.14)	.001*

* $p < .05$

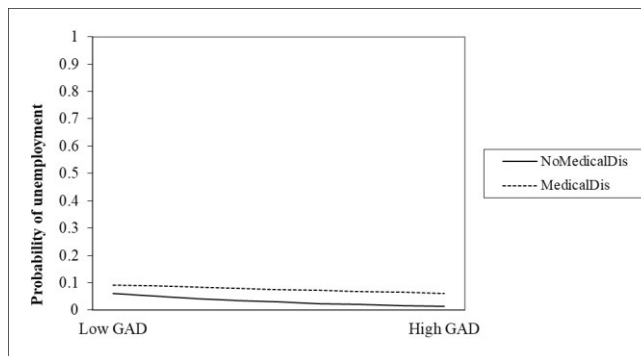
**predicted probability is of membership for unemployed

** All analyses adjusted for sex, rank, service, age and number of doctor diagnosed conditions

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Figure 3.

The interaction effect between GAD scores and medical discharge on the probability of unemployment



Overall, all mental health measures, level of education, medical discharge, DVA client status and years of service were significantly associated with civilian unemployment, supporting the hypotheses. The predicted direction of association between years since transition and the odds of unemployment was not supported and the association between deployment and unemployment was not statistically significant. The predicted interaction effect between education level and mental health was not supported; however, the interaction between medical discharge and mental health symptoms on the likelihood of unemployment was significant and supported the hypothesis.

Discussion

With thousands of members transitioning out of the Australian military each year it is imperative that the factors facilitating better transition outcomes are known in order to support re-integration success. As outlined in the recent Transition and Wellbeing Research Programme Mental Health Prevalence Report, 46% of transitioned veterans surveyed met the 12-month diagnostic criteria for a mental health disorder, which was significantly higher than

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currently serving veterans (Van Hooff et al., 2018). Research has consistently outlined the impact that mental health has on employment outcomes in both civilian and military contexts (Iversen et al., 2005; Penk et al., 2010; Savoca & Rosenheck; 2000). The results of this study, exploring the impact of mental health on employment in Australian veterans, further support these findings.

Consistent with overseas research, all mental health conditions, including depression, PTSD, anxiety, anger, psychological distress and alcohol abuse, were positively associated with unemployment. As the scores on each mental health measure increased, the odds of unemployment also increased. Results of the multivariable model suggest that PTSD, depression and anxiety remain the most important mental health conditions in predicting the likelihood of unemployment. PTSD has been reported as the highest diagnosed mental health condition within the veteran population, followed closely by depression (Twamley et al., 2013). The results of this study are consistent with these prevalence estimates; however, the impact of co-morbidity was not explored. Mental disorder co-morbidity has been shown to be high in the veteran population and can be considered an indicator of the severity of disorder and impairment (Van Hooff et al., 2018). Further investigations regarding the impact of the combination of mental health conditions may provide a more detailed understanding of the association between mental health and unemployment.

Interestingly, the effects of anxiety were somewhat different to other mental health conditions when considered together in the multivariable analysis. Specifically, in the multivariable analyses, as anxiety scores increased, the odds of unemployment decreased. As the mean anxiety score was significantly higher in the unemployed compared to employed group, and the effect size in the regression model was small, it is likely that this unexpected finding is not meaningful. When results for the interaction between anxiety and medical discharge on unemployment were plotted, it can be seen that while statistically significant,

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there was very little meaningful difference between the groups. The fact the direction of effects of anxiety and alcohol problems changed direction and were reduced in the multivariable models suggests that it may be the interaction of these symptoms with other mental health symptoms that influence their effect on the probability of unemployment.

As outlined in the Mental Health Prevalence report, and other research, the onset of PTSD and depression may not become apparent until sometime after leaving service (Coons, 2018; Van Hooff et al., 2018). Furthermore, the delayed onset of mental health concerns may lead to further challenges in access to appropriate treatment. Changes in the provision of health care between the military and civilian environment may cause difficulties for veterans to receive support. Moving to a multiple-service model where the veteran is responsible for facilitating their own treatment may lead to delayed engagement in treatment (Gray et al., 2017). All of these factors may contribute to the emergence and/or worsening of mental health symptoms following transition from service. Given their association with unemployment, early identification and management of symptoms has the potential to improve outcomes for veterans beyond reduction of disorder risk. Investment in sensitive screening tools to identify veterans at risk of the development of mental health conditions may assist Defence to intervene and facilitate civilian treatment networks before the veteran leaves the military. Early intervention could lead to better transition success and subsequent civilian employment engagement. In addition, regular check-ins with retired veterans, at least 6-12 monthly, may assist to identify the early signs of mental health concerns and support could be implemented accordingly to reduce any further deterioration, including withdrawal from the workforce.

Given the low uptake of services in the veteran community, further exploration of the effectiveness of treatment for veterans with mental health conditions in the civilian health care system may be beneficial (Abraham et al., 2014; Gray et al., 2017). Qualitative methods,

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including interviews with a representative sample of veterans, may help to better understand the individual preferences and complexities surrounding service access and provision.

Civilian practitioners may not fully understand the challenges of military retirement and the differences between military and civilian cultures. Greater training and support for practitioners working with veterans may facilitate better treatment outcomes. Utilisation and collaboration of services, including rehabilitation, employment, ex-service and community organisations, may also promote better civilian transition and employment outcomes for veterans. Continual evaluation of service provision and collaboration efforts between agencies would be helpful in guiding the future focus of support programs to ensure ongoing effectiveness.

Due to the delayed onset of mental health conditions in veterans, other factors, such as education, service and transition demographics, were investigated in this study to identify veterans more at risk of civilian unemployment following military transition. The results outline that as service years increase, the likelihood of unemployment also increases.

Consistent with previous research, veterans who were released mid-career appear to have the greatest challenges transitioning to civilian life, including securing civilian employment (MacLean et al., 2014). Longer separation from the civilian world may lead to greater challenges in re-establishing civilian networks and relationships. Additionally, longer military employment may also impact perceived transferrable skills as they have spent longer out of the civilian workforce or may have never engaged in civilian employment prior to joining. Future studies evaluating the perception of transferrable military skills within the Australian civilian labour market would help to understand this potential barrier further. The positive association between service years and unemployment may also reflect older veterans retiring from service and further research distinguishing the type of retirement may assist to better understand this association.

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Education level was found to be a significant predictor of unemployment with tertiary educated veterans less likely to be unemployed at the time of survey. Exploration of the interaction effect of education level and mental health on the probability of unemployment yielded no significant results. Lower educated veterans may face greater challenges re-entering the civilian workforce, potentially attributed to the perceived lack of transferrable skills as well as civilian labour market demands. Consideration regarding upskilling programs, including the recognition of military training and experience, aimed at providing members with transferrable civilian qualifications may facilitate better transition to the workforce following military retirement. Further investigations exploring the specific qualifications, skills and experience and civilian industries veterans successfully secure employment in may help to guide veteran employment and rehabilitation services as well as provide a focus for military training programs.

Interestingly deployment was not significantly associated with unemployment. Exposure to combat has been associated with an increased likelihood of the development of PTSD (Coons, 2018). However, the association between deployment and unemployment has been varied (Burnette-Zeigler et al., 2011). The discrepancies in results may be impacted by the measurement of deployment and whether this accurately reflects engagement in active war zones or exposure to combat. The data analysed for this study did not distinguish between combat or peacekeeping deployment. Future studies could examine combat exposures, with respect to specific operation conditions, and the relationship with mental health symptoms and subsequent unemployment.

As predicted, medical discharge had a positive association with unemployment. Veterans who were medically discharged had a greater likelihood of unemployment compared with non-medically discharged veterans. Previous research has outlined mastery as a key facilitator to transition success and it was proposed that veterans who were medically

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discharged may have lower perceived mastery given the lack of choice in their retirement (Hachey et al., 2016; MacLean et al., 2014). The results of this study support previous findings identifying medical discharge as a risk factor for transition success. Future studies which include a measurement of mastery would help to understand the relationship between medical discharge and perceived mastery further. The data obtained on medical discharge did not distinguish whether psychological or physical injuries were that main cause of discharge. Although the analyses controlled for physical health conditions, it would be valuable to investigate whether the type of injury leading to discharge influences the relationship between medical discharge and unemployment, particularly as mental health symptoms were found to moderate this relationship.

Review of the interaction effect between medical discharge and mental health variables identified that for veterans with high scores on the mental health measures, medical discharge acted as an additional risk factor for unemployment. Furthermore, the results indicated that the interaction between medical discharge and mental health measures, specifically PTSD and depression, accounted for a large proportion of the variance found in the individual variables association with unemployment. This suggests that veterans with high depression and PTSD scores have an increased likelihood of unemployment only if they were also medically discharged or conversely, medical discharge is only a risk factor when accompanied by elevated PTSD or depression. The combination of mental health symptoms and medical discharge seems to exacerbate the likelihood of civilian unemployment. The implementation of support to help guide veterans screening high for mental health concerns through the discharge process, as well as involving the veterans in decision making regarding their military career, may lead to better civilian employment outcomes. Unlike programs implemented in the US, little is currently known about the effectiveness of transition programs within the Australian Defence Force. A review of these programs and supports may

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be warranted given the risk of future civilian unemployment, particularly in medically discharging veterans with high mental health symptomology.

Another factor potentially influencing the increased likelihood of unemployment in veterans with high mental health symptomology who have medically discharged, is the receipt of financial compensation. Veterans with conditions accepted by DVA can access incapacity payments to assist during their transition to civilian employment. There is currently limited research on whether financial compensation acts as a disincentive for civilian employment within the Australian veteran population. Further investigation into the benefits and risks of compensation programs may help to guide future policy development.

Due to the results of the Programme outlining a delay in the onset of mental health conditions following military transition and subsequent deterioration over time, it was hypothesised that the likelihood of unemployment would increase over time. Alternatively, the results of this study indicate that with each passing year since discharge, the likelihood of unemployment decreased. It would be interesting to explore the relationship between time since discharge and engagement in treatment, rehabilitation and employment services to see whether these supports assist unemployed veterans to move into the labour market more quickly. Investigating the characteristics of veterans who access and engage in these services and their employment outcomes may also provide useful information regarding service uptake trends and could guide future service promotion.

Upon review of the veterans who were employed at the time of survey, the results indicate that productivity and attendance were influenced by mental health concerns, with an average of .51 days missed per week. Even though veterans may be engaged in the civilian workforce, they might not be faring well, which in turn could lead to future unemployment. This study focussed on whether or not veterans were employed at the time of data collection.

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Obtaining additional data, such as the type of civilian employment, how suited the veteran's skills are to the role and their job satisfaction, may also be useful in identifying veterans at risk of future unemployment. Longitudinal data to uncover patterns in unemployment, including the duration and frequency of unemployment periods, would also be beneficial to address the barriers that veterans face in civilian workplace environments and understand the impact that unemployment has on mental health.

Previous research has investigated the role of social support, specifically veteran/peer support, on civilian adjustment (Ahern et al., 2015; Eells, 2017; Hachey et al., 2016). In this study, there was a difference between unemployed and employed veterans in relation to their ex-service organisation (ESO) engagement; however, participation was minimal, with the majority of participants not engaged with any ex-service organisation. Further research to determine whether social support is the main reason for veteran engagement in ex-service organisations, specifically within an Australian context, or whether other factors, such as advocacy and/or financial support play a part may be beneficial and help guide ESO's in the promotion and direction of their services.

Limitations

This study used a cross-sectional design, therefore the causal direction between mental health, military and transition variables on unemployment cannot be confirmed. Longitudinal data collection would allow for a more nuanced understanding of the potential bi-directional relationships between these factors and employment outcomes, including whether the number and length of employment periods impact the development and/or exacerbation of mental health symptomology. Sampling errors may also exist as participation in this study was voluntary. Data collection may not have captured veterans who were homeless, with no fixed address, or veterans without access to internet services. The response

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rate for participation in the Transition and Wellbeing Research Programme was low (18%) leading to potential responder bias, however, the demographics of the sample were similar to the overall characteristics of transitioned ADF personnel.

This study utilised self-report data and is therefore reliant on veterans' recall with no objective data to compare against. There are also limitations regarding the measures and data utilised in this study. Deployment was not indicative of combat exposure which may have influenced the results. Additionally, there was no indication of whether a veteran was medically discharged due to physical or psychological injuries or both. The outcome measure of civilian employment engagement limits generalisability as it only accounts for veterans who were employed at the time of survey, rather than investigating the patterns of civilian employment over periods of time.

Future research

The aim of this study was to investigate the facilitators and barriers to civilian employment following discharge from the Australian Defence Force. There has been limited research on veteran outcomes in Australia and this study contributes to extending this knowledge. Further research to explore the relationships between military, transition and mental health factors is needed to fully understand how we can assist our veterans to move into civilian employment.

Consideration of individual differences, such as personality characteristics, may help to identify veterans more at risk of mental health concerns and civilian unemployment, which in turn may be useful in the initial ADF recruitment phase. Thorough exploration of education factors as well as occupation and industry specific information would be helpful in guiding employment services. Utilisation of more specific quantitative measures such as job satisfaction, level and type of civilian role, as well as qualitative questions investigating

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civilian employment experiences, would allow for a greater understanding regarding the barrier's veterans face moving into civilian employment. In addition, an understanding of the specific elements of medical discharge that reduce civilian employment, such as information provision, access to treatment and rehabilitation services, financial compensation, transition supports and coordination of medical claims, would be informative to guide future transition services within Defence.

The evaluation of military and civilian mental health and vocational rehabilitation services is needed to understand how providers can positively influence the employment outcomes of Australian veterans. Information about the effectiveness of individual services and the clients who are more likely to access these services would allow for more effective future planning and may encourage providers to collaborate to further improve veteran transition outcomes. More information regarding the risk and protective factors impacting veterans' transition and civilian employment success is needed, with the aim to facilitate a targeted and individualised approach to service provision. With the growing number of ADF members transitioning to civilian life, a greater understanding of the needs of Australian veterans is essential.

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The journal seeks scholarly articles, from both researchers and practitioners, concerning psychological factors in relationship to all aspects of occupational safety, health, and well-being.

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