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Family Ties: The Relationship Between Family and Workforce Behaviors (Retention, Separation, and Re-entry) in the Royal Australian Air Forces Officer Aviation Workforce

March 2022

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Prepared for the Naval Postgraduate School, Monterey, CA 93943

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The research presented in this report was supported by the Acquisition Research Program of the Department of Defense Management at the Naval Postgraduate School.

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ABSTRACT

The Royal Australian Air Force (RAAF) delivers air power for the Australian Government. To produce and sustain the personnel capability that generates air power, the RAAF must understand the retention and separation behaviors of their Officer Aviation (OA) workforce. Given the tremendous importance that people place on both their families and their careers, this thesis explores the interaction between family and workforce behaviors in the RAAF's OA workforce.

Using a series of linear probability models, I investigate the relationships between the separation characteristics of OA members and their family structure and composition. I further investigate the association between family composition and re-entry of OA members into the permanent service (after a period of separation). I find that within OA, being in a recognized relationship has a positive association with a member's retention, and that having children reduces the propensity to separate and increases the chance of re-entry. Parents do, however, separate at an increased rate after their eldest child commences schooling or when their family consists of one child.

My research can be used to inform further workforce analysis. With a greater appreciation of the influence of family on employee behaviors, workforce strategists can refine human resource management policy, target specific family constructs, and improve capability generation and sustainment.



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ACKNOWLEDGMENTS

My appreciation could very easily turn into a never-ending Oscar speech. I will endeavour to remain disciplined.

Dr. Jennifer Hiessel. You are a phenomenal educator with an amazing ability to simplify the most complex of concepts. Thank you for your patience and support, and for agreeing to advise my thesis, despite an already saturated portfolio.

Dr. Erik Helzer. I continue to learn from you. Thank you for your support and patience, and dedication to improving me. Most of all, thank you for your friendship.

Wing Commander Mark Powell. For introducing me to the MSA program — thank you. Your dedication to altruistic, empirically based workforce planning is an inspiration. Thanks for the data, and particularly for your encouragement and camaraderie.

Wing Commander Anna de Vries. Your consistent successful application of SWF approaches keeps me motivated and humble. Thank you for your inexhaustible support and for going above and beyond friendship. The red-penning, and the investigation and re-examination of data irregularities, has assured accuracy in my thesis.

The completion of the MSA program is a major accomplishment, and is but another (gigantic) step on an ongoing journey that commenced years ago. I would not be here without the support of many phenomenal people ... far too many to name. However, I was afforded this specific opportunity by, and thanks to, the guidance and support of a number of individuals for whom I am deeply grateful. Air Commodore Jules Adams, Air Commodore Greg Frisina, and Air Commodore Tony Hindmarsh, for the opportunity, for believing in me, and for what you have each individually taught me (over so many years). Words cannot express my gratitude. Finally, Air Vice Marshal Geoff Harland and Group Captain Paul Willmot, I would not be here if not for the two of you. Thank you for your mentorship, your counsel, your advice, and for everything you have each taught me (not just about HR, but how to be a better officer and person), and for always believing in me. I will forever be indebted to you for your immeasurable support, for the opportunities that you have enabled for me, and for your friendship.



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LIST OF ACRONYMS AND ABBREVIATIONS

ABM	Air Battle Management competency stream
ACT	Australian Capital Territory
ADF	Australian Defence Force
ADFA	Australian Defence Force Academy
AEO	Airborne Electronics competency stream
AFS	average funded strength
AMO	Air Mobility competency stream
ATC	Air Traffic Control competency stream
CEO	Chief Executive Officer
CoS	Conditions of Service
DEO	Direct Entry Officer
DPG	Australian Defence Force Defence People Group
FJP	Fast Jet Pilot competency stream
FWP	Fixed Wing Pilot competency stream
GOPS	Graded Officer Pay Scale
HRM	human resource management
Jnr	Junior
LoS	Length of permanent service
LoTO	Length of time out
LPM	linear probability model
MPRO	Maritime Patrol and Response competency stream
MSBS	Military Superannuation Benefits Scheme
MWD	Member with Dependents
MWOD	Member without Dependents
NSW	New South Wales
NT	Northern Territory
OA	Air Force Officer Aviation
OAC	Officer Aviation Candidate
OAPS	Officer Aviation Pay Scale
OARS	Officer Aviation Remuneration System



OCS	Officer Common [salary] Scale
PAF	Permanent Air Force
PMKeyS	Personnel Management Key Solutions (computer software)
Prep	Preparatory School
Q&S	Qualification and Skill (allowance)
RAAF	Royal Australian Air Force
RP	Remote Pilot competency stream (dormant)
RTS	Raise, Train and Sustain (capability generation framework)
SA	South Australia
Snr	Senior
Std Dev	standard deviation
USN	United States Navy
WA	Western Australia
WSO	Weapon Systems competency stream



I. INTRODUCTION

“The bad news is time flies. The good news is you’re the pilot.”

Michael Altshuler

A. OBJECTIVE

We place momentous value on both our families and our jobs. There are a substantial number of studies that investigate the influence of family on workplace behaviors and workforce retention. The Royal Australian Air Force (RAAF) considers people a critical capability and must attract, recruit, and retain the correct balance of personnel to assure military capability (Royal Australian Air Force, 2017a). Therefore, it behooves the Air Force to fully understand the role that family plays in guiding career decisions of their members.

The RAAF is responsible for the delivery of air power effects. Air power is dependent on generating and sustaining military aviation. Generating and sustaining military aviation is complex, expensive, and dangerous and relies heavily on the service men and women who operate, control, and manage the aviation platforms and mission systems. In the RAAF, those individuals comprise the Officer Aviation (OA) workforce.

In 2018, to best generate and manage the personnel resources required to assure effective air power, the RAAF implemented the OA Human Resource Management (HRM) reform.¹ The OA HRM reform primarily shifted the focus of workforce management to controlling supply and retention, rather than reacting to attrition.

In support of the OA HRM reform, my thesis focuses on improving our understanding of the reasons and factors that influence individuals’ career choices. I investigate whether separation (and therefore retention) of Permanent Air Force (PAF) OA members is associated with family structure and composition. Also, I examine

¹ The OA HRM reform was the most significant HRM reform in the ADF since World War II (Commonwealth of Australia, 2021a).



whether a relationship exists between parenthood and the likelihood of an ex-PAF OA member re-entering the permanent Service.

B. BACKGROUND

1. Strategic Workforce Management in the Australian Defence Force

The Australian Government funds the Australian Defence Force's (ADF) directed level of personnel strength on an *average funded strength* (AFS) basis. At its core, the AFS is a headcount representation of the permanent (active) uniformed personnel budget—a defined number of personnel (Australia. Department of Defence, 2020a).²

The Government allows for a small (+/- 1%) variance in the AFS budget, but an underachievement of the AFS is detrimental as there are not enough personnel to achieve directed levels of capability. An overachievement of AFS, on the other hand, is equally harmful to capability, as (outside of the 1% allowance) the funding for the additional personnel must be sourced from within the Service at the expense of other funded elements (Australia. Department of Defence, 2011).

AFS management is complicated. The complexity is further compounded by the fact that the ADF ordinarily appoints or enlists personnel for an indefinite period of service.³ An indefinite period of service generally means that ADF members can continue to service in the permanent forces for as long as they desire.⁴ Therefore, effective AFS management requires the ADF, and more specifically each of the single Services (Navy, Army, and Air Force) to very closely understand the retention and separation behaviors of their workforces. If average service tenure is too short, training

² During calendar year 2019, ADF-wide AFS was between 58,380 and 59,109 personnel, of which the RAAF's apportionment was between 14,222 and 14,365 permanent members. Driven by a re-shaping campaign and acquisition of new capabilities, AFS will continue to grow through financial year 2023/2024 and potentially beyond (Australia. Department of Defence, 2020a, 2020b).

³ It is also not uncommon in the ADF for ex-permanent members to seek re-entry to the permanent forces after a period of separation.

⁴ Specifically, an indefinite period of services means that ADF members can continue to render permanent service until they reach retirement age (60 years of age), apply for voluntary transfer from the permanent element, or are terminated for reasons that their continued service is not in the interests of the ADF (Australia. Department of Defence, 2017b; Commonwealth of Australia, 2016).



overheads are inefficient and unsustainable. Conversely, longer average tenure creates the risk of an inability to react, recover, and rejuvenate. Across the ADF, successful personnel budget management assures efficient and sustainable resource allocation. In the context of OA, maintaining the correct balance of experience profiles across the workforce is also critical to aviation safety and capability assurance.

2. Family and Schooling in the Australian Context

a. Family Composition and Structure

In Australia, irrespective of gender or sexual orientation, a person who “voluntarily enters into, for life, a union with one other person to the exclusion of all others” is considered married (Commonwealth of Australia, 2021c). A person may be in a *registered relationship* or *de facto relationship* where they are not legally married to their partner but are in a relationship living as a couple on a domestic basis, however (Commonwealth of Australia, 2021b). A person who is married has a *spouse*, whereas a person in a registered or de facto relationship has a *partner*.

In the wider Australian context, nuanced differences exist between marriages, registered relationships, and de facto relationships (predominantly with respect to what occurs if the relationship dissolves), but the ADF does not discriminate between the three, recognizing both spouses and partners as marital dependents (Australia. Department of Defence, 2021c; Commonwealth of Australia, 2021d). Therefore, for the purpose of my thesis, spouses and partners are considered identical in terms of marital status. Similarly, I make no distinction between persons who were formerly married (divorced or separated pending divorce) and those formerly in a registered or de facto relationship. Consequently, I use the terms *partner* to describe a member with a marital dependent; *partnered* to describe a person in a marriage, registered relationship, or de facto relationship; and *formerly partnered* to describe a person who is divorced, separated from their spouse, or formerly in a registered or de facto relationship.

With respect to children, the ADF recognizes a dependent child as a person who is under 21 and is a child of the member or member’s partner, or has been placed in the



member’s permanent care by a court order (Australia. Department of Defence, 2021c; Commonwealth of Australia, 2021d).

There are certain conditions of service (CoS) benefits that the ADF offers, applicable to members who have dependents only. Many of these benefits are not available or exceed the conditions applicable to couples and parents in the civilian sectors. The benefits available to ADF families may therefore influence retention behaviors and/or individuals’ desire for re-entry. Further information is available in Appendix A, Section B.

b. Australian Family Demographics

Family structure in Australia is changing as highlighted by Figure 1, Figure 2, and Figure 3. In 2016 (the last published Australian census), families represented 71% of Australian households, down from 77% in 1986. Similarly, the average number of people per household had fallen to 2.6 from 4.5 in 1911.

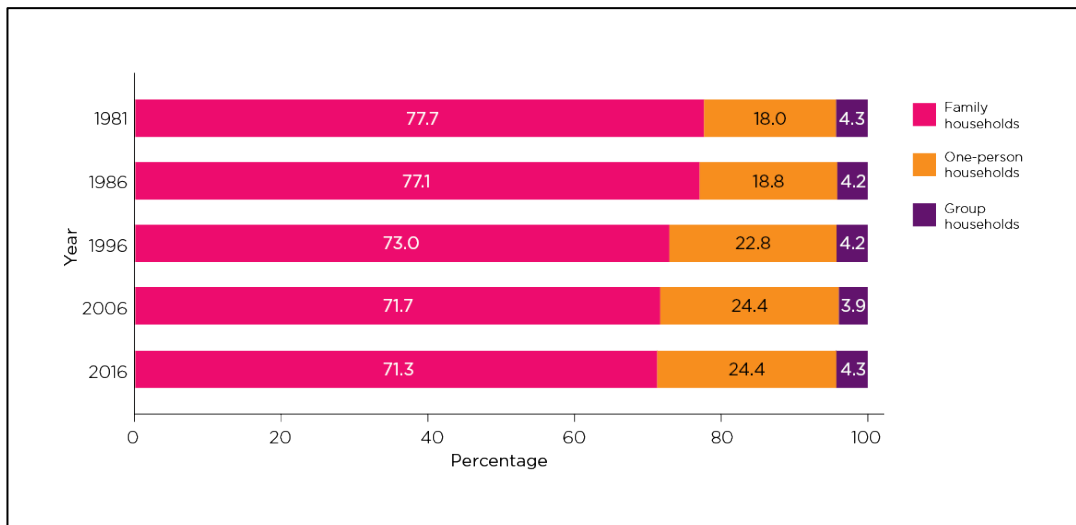


Figure 1. Household Types (1981–2016).
Source: Australian Institute of Family Studies (2021).

As shown in Figure 2, the fraction of couples with dependent children is on the decline, 37% compared with 48% in 1976, and since 1996, a nuclear family has stabilized



at two children (38–39% of families). In 2016, 14% of adult women had one child, and 16% no children (see Figure 3).

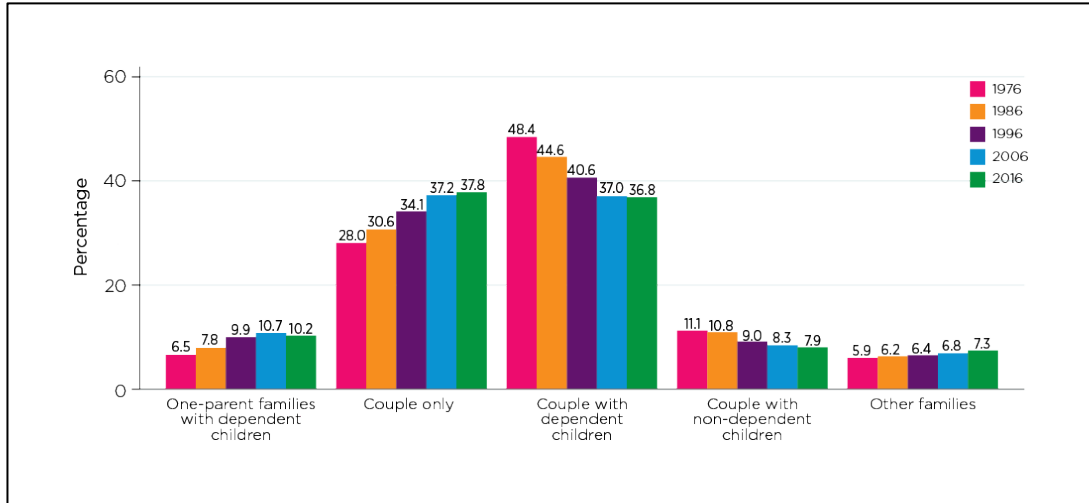


Figure 2. Family Types (1981–2016).
Source: Australian Institute of Family Studies (2021).

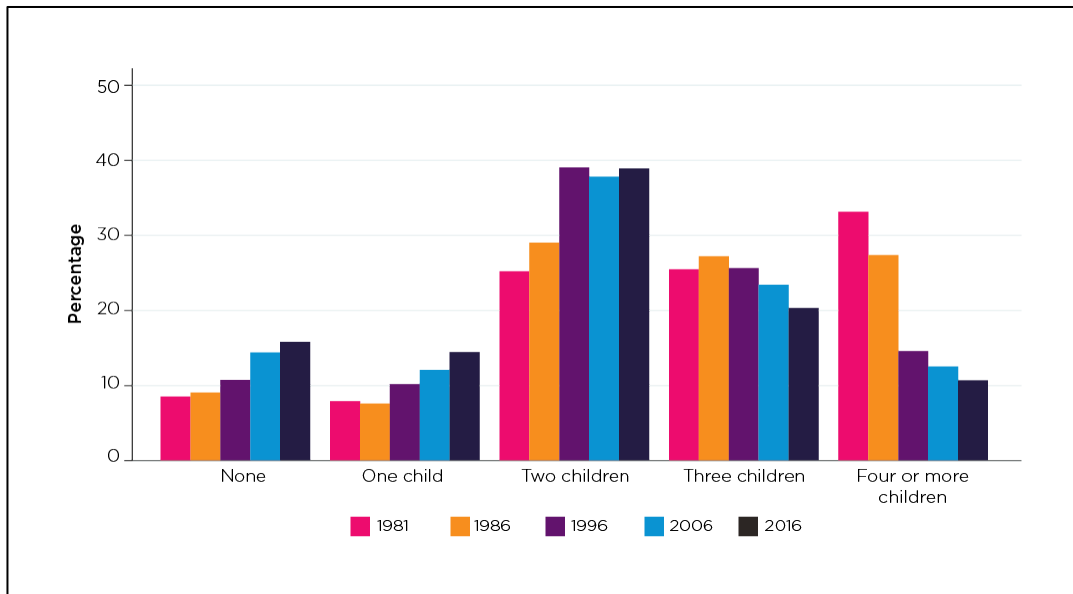
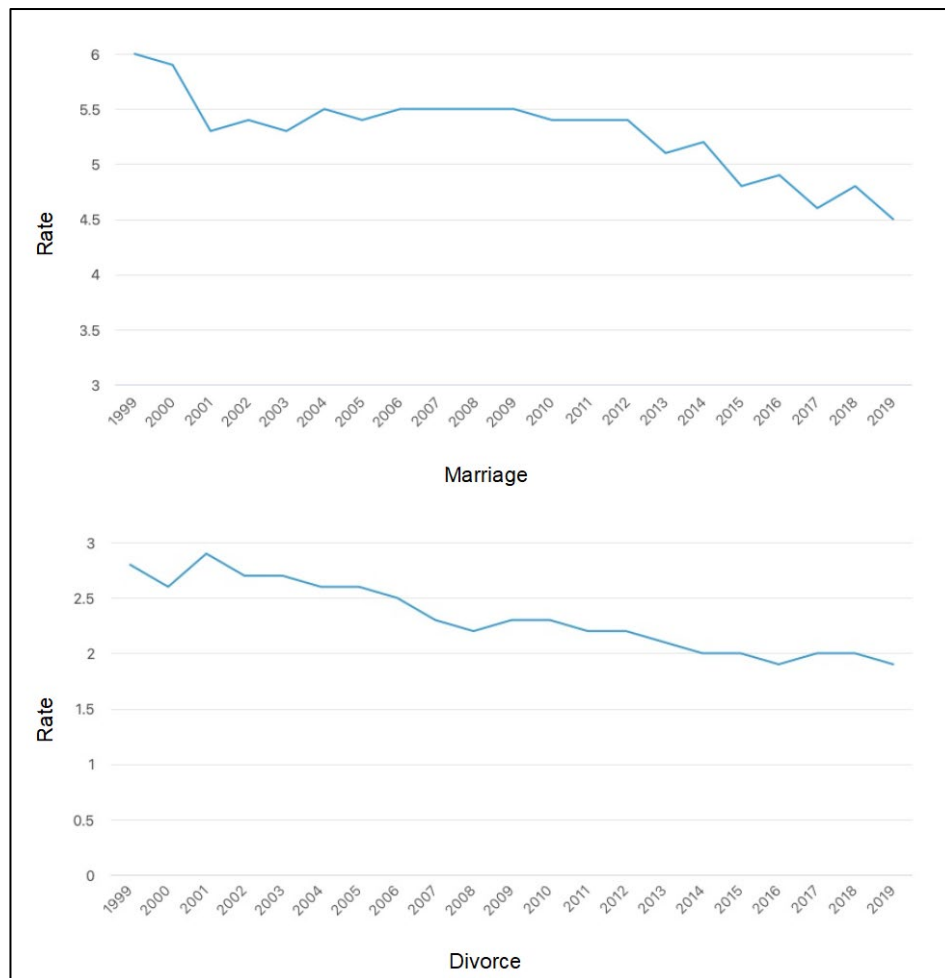


Figure 3. Number of Children Women Aged 45–49 Ever Had (1981–2016).
Source: Australian Institute of Family Studies (2021).

Both men and women are getting married at an older age, approximate 30 years of age for both genders, and as depicted in Figure 4, the crude rate of marriage has declined to 0.45% as of 30 June 2019, although a majority of adults will marry at some point during the course of their life. Further, the crude divorce rate has also decreased since the year 2000, trending down for men under 45 and women under 40, and up for men aged above 50 and women aged above 45 (Australian Bureau of Statistics, 2020; Australian Institute of Family Studies, 2021).



Crude marriage and divorce rates reflect the number of marriages registered and divorces granted during the year per 1,000 estimated resident population, as of 30 June for that year (Australian Bureau of Statistics, 2020).

Figure 4. Crude Marriage and Divorce Rates (1999–2019).
Source: Australian Bureau of Statistics (2020).

c. School

Across the eight Australian states and territories, the school education systems are similar with only minor variations. School is mostly compulsory and runs for 12 years (not including Kindergarten). The school year is aligned with the calendar year commencing in late January and finishing early-mid December annually. While nomenclature varies by state and territory, broadly speaking, there are three levels of schooling: Kindergarten, Primary School, and Secondary School (Commonwealth of Australia, 2021).

Kindergarten is compulsory in some states and is most commonly accessible to children from age four and a half. Kindergarten is of approximately one-year duration. Primary school commences at Year 1 and ends at Year 6 in most states and territories (excepting Queensland, South Australia and Western Australia who end primary school at Year 7). Children commence primary school at between five and six years of age.

Secondary school can be further divided into Junior Secondary and Senior Secondary. Junior Secondary commences at Year 7 when the child is 11 or 12 years of age (excepting Queensland, South Australia, and Western Australia who start a year later (at Year 8) as an artifact of the additional year in Primary school). Senior Secondary is semi-voluntary, but most students continue into Senior Secondary. Encompassing the final two years of schooling (Year 11 and Year 12), students commence when 15 or 16 years of age and will finish their formal schooling at 17 or 18 years of age.

I postulate that schooling considerations have the potential to influence an individual's propensity to separate or re-enter the ADF; therefore, a basic understanding of schooling in Australia is crucial. Further details regarding schooling in Australia and the variations between each of the states and territories are provided in Appendix A, Section C.

3. Air Force Officer Aviation

A brief understanding and history of the OA workforce and factors that have the potential to drive retention and re-entry behaviors are critical for understanding my research. A more comprehensive overview is provided in Appendix B.



a. *The Air Force Officer Aviation Family*

The OA workforce consists of those personnel accountable for the application of air power (Australia. Department of Defence, 2017a).⁵ There are various methods through which a member may enter the OA workforce. Most commonly, OA candidates (OAC) are selected via a common battery, then undertake elements of communal and focused training, becoming a trained force OA member on the attainment of their primary qualification onto an aviation weapon system (Australia. Department of Defence, 2017b).

Prior to 03 May 2018, the OA workforce consisted of the historical, but stove-piped, aircrew pilot and navigator, air defence officers, airborne electronics officers, and air traffic controller employment categories. From 03 May 2018, however, the OA reform established all aviation trades under a single umbrella: *The OA Employment Framework* (RAAF. Directorate of Workforce Aviation, 2017).

The OA workforce is managed as a single family, but the differing training risks and complexities and the diverse functions performed by OA members are accounted for using *competency streams*. Dependent on an individual's point in career, the competency stream may bear substantial (i.e., the proficiency phase) or negligible (e.g., O6 staff tours) relevance. OA members are placed into a stream based on the qualification that enabled their entry into the trained force element. There are eight active competency streams: Air Battle Management (ABM), Airborne Electronics (AEO), Air Mobility (AMO), Air Traffic Control (ATC), Fast Jet Pilot (FJP), Fixed Wing Pilot (FWP), Maritime Patrol and Response (MPRO), and Weapon Systems (WSO) (Australia. Department of Defence, 2017a; RAAF. Directorate of Workforce Aviation, 2017; Royal Australian Air Force, 2021).⁶

⁵ The OA workforce consists of an under-training element (Officer Aviation candidates) and a trained-force element. For the purposes of my thesis, reference to the *OA workforce* refers to the trained-force element (unless otherwise stated).

⁶ While the OA family was, until 2018, managed via a number of segregated employment categories, for the purposes of my thesis, the competency streams are backward compatible in terms of individual and workforce characteristics.



b. Workforce Development and Sustainment

The OA HRM reform also introduced a dedicated OA HRM strategy: *Resource Effective Airpower*. The HRM strategy applies cohort regulation to shape the OA workforce. Enabled by dynamic management that aims to influence when members separate (rather than retain all possible personnel), the cohort regulation approach employs a stable intake logic to minimize Raise, Train and Sustain (RTS) instability (Australia. Department of Defence, 2017a; Royal Australian Air Force, 2021).

On entry to the trained force, OA members are promoted to O2 rank and commence the *proficiency* phase of their career. During proficiency, OA members form the deployable (operational) force and their foundational technical mastery is developed, peaking when an operator attains highly proficient status. OA members next proceed to *sustainment* activities, generally commencing between three and a half and five years after the individual gains their primary qualification.⁷ On transition to the sustainment phase, aviators progress from being a consumer to a producer of RTS resources. Generally speaking, members can expect to spend one and a half to two tours contributing to the sustainment of the Air Force's aviation capability before they seek separation, or are promoted to O4 rank (Australia. Department of Defence, 2017a; Royal Australian Air Force, 2021).

Promotion to O4, O5, and O6 is competitive.⁸ On promotion to O4, OA members commence the *O4-O6* period where OA RTS activities are supervised and commanded. Generally speaking, OA members compete for a supervisory (or command) tour and can expect multiple staff tours at each rank level, but the *O4 Supervision* phase is fundamental to the RTS capability generation framework. O4 Supervision is where experienced personnel primarily oversee the safe, effective, and efficient provision of aviation capability (Australia. Department of Defence, 2017a; Royal Australian Air Force, 2021).

⁷ OA members are promoted to O3 rank five years after promotion to O1, which is loosely aligned with transition into sustainment activities.

⁸ Promotion to O7 is also by competition, but it commences the Senior Leadership period, signaling where a member ceases to be an OA member per se.



O4 supervision and O3 sustainment are where safe, resilient air power is assured. Therefore, for the RAAF, O4 supervision and O3 sustainment are the most important stages of the framework. These two phases generally occur between 10 and 20 years of PAF service. In OA, 10 to 20 years of service therefore represents the *dynamic region* that generates the highest productivity effects. The dynamic region is also that which is most susceptible to retention and separation manipulation (P. Willmot, personal communication, October 30, 2021).

c. Conditions of Service (Industrial Relations)

(1) Remuneration

Since 2005, the Air Force has seen three distinct wage structures applied to OA remuneration. Prior to 2006, OA members were remunerated via placement in the ADF Officer Common [salary] Scale (OCS). Whilst a common scale, the OCS featured a degree of pay disparity between the individual employment categories that would later become the OA family (Australia. Defence Force Remuneration Tribunal, 2007; Australia. Department of Defence, 2007, 2017a).

Effective 01 October 2009, the Officer Aviation Remuneration System (OARS) was introduced as part of the transition to the Graded Officer Pay Scale (GOPS). The GOPS OARS, *OARS1* grandfathered some officers at their OCS salary rate, but other members, as well as new entrants, were appointed at a lower salary rate. Thus, significant disparities existed within and between the independent employment categories that formed the OA family (Australia. Defence Force Remuneration Tribunal, 2009).

Coincident with the implementation of the OA HRM reform, the OARS evolved in May 2018 with the implementation of the Officer Aviation Pay Scale (OAPS). The OAPS (OARS3)⁹ differentiates pay by stream, attracting members to the higher risk, higher complexity streams, and provides for retention of OA members whose experience

⁹ OARS2 introduced a seniority-based allowance for specified Officer Aviation members, effective January 2013. With an aim to regulate workforce flow and distribution, OARS2 is an on-occurrence payment as opposed to a persistent salary (Australia. Defence Force Remuneration Tribunal, 2012; Australia. Department of Defence, 2017a; Harrison & Bevis, 2013).



profiles and skills are more susceptible to external market forces (Asbury et al., 2018; Australia. Defence Force Remuneration Tribunal, 2018; Australia. Department of Defence, 2017a).

(2) Protected Service

The ADF applies a *Service Obligation* in circumstances that warrant certainty of service to secure a reasonable return on investment and/or to ensure workforce stability for capability purposes (Australia. Department of Defence, 2017b; RAAF. Directorate of Workforce Aviation, 2019). For the duration of a Service Obligation, members are considered to be under *protected service*, meaning they are unable to separate except in exceptional circumstances (Australia. Department of Defence, 2017b; RAAF. Director General Personnel - Air Force, 2018; Royal Australian Air Force, 2018)

In the OA context, and prior to the OA HRM reform, Service Obligations were applied to members based on intake type (Direct Entry or Academy) and the member's future intended employment category. The OA reform replaced the application of disparate Service Obligations with a common nine-year obligation consistent across the entire OA family. OA's protection mechanisms were unable to be applied retrospectively, however, and therefore only apply to new entrants (RAAF. Director General Personnel - Air Force, 2018; RAAF. Directorate of Workforce Aviation, 2019; Royal Australian Air Force, 2021).

The periods of protected service most applicable to my research are those that were in use prior to the OA reform, as they were extant and applicable for the majority of my research period.¹⁰ Immediately prior to the OA reform, the periods of protected service (applied from date of appointment) for a non-ADFA entrant were 11.5 years for FWP and FJP; seven years for ATC; and eight years for WSO, AMO, MPRO, and ABM. AEO were not subject to protected service.

¹⁰ OA members subject to the post-reform protection mechanism remain under protection at the cessation of my observations, and hence are not affected by the disparities based on what would have otherwise been their employment category if not for the OA reform.



(3) MSBS Retention Benefit

In 1991 the ADF introduced a new superannuation scheme, the *Military Superannuation and Benefits Scheme* (MSBS). Within the MSBS legislation, a provision was made that allowed payment of a benefit to certain ADF members who had completed at least 15 years of service, to induce continued service in the permanent forces until they complete 20 years of service. In the context of the OA, the MSBS retention benefit allowed for a payment of one year's salary to members who had entered the military before 06 October 2005 and had been promoted to O4 rank, or were in the air traffic control employment category/ATC stream (Commonwealth of Australia, 2004).

C. PURPOSE

The aim of my research is to understand the relationship between family and workforce behaviors. Workforce retention, separation, and re-entry activities depend on two distinct conditions: an opportunity and a motivation to remain or separate. Given the OA HRM strategy and the criticality of sustainment and supervision phases in assuring safe, resource-effective airpower, a greater understanding of the relationship between family and the propensity to separate or remain (as well as to re-enter) will support policy design to optimize OA workforce management.



II. LITERATURE REVIEW

In both the civilian and military sectors, there have been a number of studies investigating the influence of family on workplace behaviors (performance, attitudes, productivity, and career choices) and workforce retention. Further, there is an increasing recognition as to the importance of, and a growing desire amongst employees for, a stable work-life balance (Oludayo et al., 2018; Parkes & Langford, 2008). The retention of personnel remains a priority for the ADF (Australia. Department of Defence, 2020c). Therefore, the ADF has a keen interest in understanding how such factors as members' families impact workforce behaviors. Very little research into the relationship between family and workforce characteristics exists in the context of the ADF, however, let alone the RAAF.

Studies into the association between family structure and military workforce behaviors have occurred to a limited extent in the United States (U.S.). Existing research is generally exclusive to first time parents and/or the prepartum and infancy periods, however. In a different context, prevailing Australian research and ADF initiatives focus on female workforce behaviors and female participation.¹¹ Broadening investigations to include the total workforce and considering family influences more wholistically presents an opportunity to enhance the existing gender initiatives, as well as expanding our understanding of the entire workforce.

A. MARITAL STATUS AND WORKFORCE BEHAVIORS

Spousal influence was found to be the prominent predicator as to whether U.S. Army enlisted personnel remained in the active service or separated following deployment (Rosen & Durand, 1995). The study investigated retention behaviors after the

¹¹ A brief overview of female initiatives in the ADF and RAAF is provided in Appendix A, Section D. Programs specifically addressing the female workforce have been shown as highly important to increasing operational effectiveness (Bridges & Horsfall, 2009) and improving workforce diversity and inclusivity (Australia. Department of Defence, 2020c).



soldiers' return from Operation Desert Storm (Iraq 1991) and also found marital problems to be a significant contributor to the decision to remain or separate.¹²

An U.S. Naval Postgraduate School (NPS) thesis from 2001 explored the relationship between marital status and retention behaviors within the U.S. Navy (USN) Nuclear Submarine Officer workforce. Similarities exist with respect to specialization and complexity of training amongst submarine drivers and OA (P. Willmot, personal communication, November 1, 2021). Therefore, while dated, the submariner thesis is of potential heightened relevance to my research. The submariner study found slight increased retention of O3 officers who were married (Phelps, 2001). A separate NPS thesis had stronger findings. The second thesis (into retention of USN Surface Warfare Officers and other specific support and enabling employment categories) indicated the likelihood of a married officer remaining in the Service was approximately twice that of non-married members (Taylor, 2005). Conversely, a 2003 study (not specifically looking into separation effects, but rather the relationship between posted position and duties and the marital status of USN Officers) reported that married USN pilots were more likely to leave than their single counterparts (Karacaoglu, 2003).

Using individuals' income, managerial level, and career satisfaction as measures of success, married men were found to be more successful than their single counterparts in a study of randomly selected MBA graduates from two U.S. northeastern universities (Schneer & Reitman, 2002). Despite a comparably sized sample, no statistically significant relationship existed between the degree of women's career success and family composition.¹³ Married male U.S. military officers received higher performance ratings and promoted at a greater rate than their single male peers (Kol & Ryu, 2002). These findings were supported by Mehay and Bowman (2005), who also found that performance increased with marriage tenure. While controlling for selection bias within those officers who did not attrite, Kol and Ryu also found that single men who would marry later in life outperformed those male officers who never married.

¹² Spousal expectations as to what resources the Army provided to the families of members whilst deployed was also found to be a contributor.

¹³ Female representation in the dataset was approximately 43%.



My investigation into previous studies examining the relationship between family and the workplace identified the notion of *work-family backlash*. Accepted as negative behaviors and attitudes (individual or collective) toward work-life balance policy and/or work-family benefits, work-family backlash is experiencing a growing interest amongst scholars (Perrigino et al., 2018). Evidence of perceived inequality by employees who are ineligible for certain benefits does exist, thus informing a New Zealand study into the potential for non-users of family-friendly policies to experience negative effects in a public organizations (Haar et al., 2005). Neither Haar et al. nor a more recent United Kingdom (UK) case study in 2018, however, found a significant difference in attitudes amongst those who utilized the work-family practices and those who did not. Previous research had indicated that work-life balance policies focused on the needs of working parents, but the responses from the participants in the UK case study (all of whom were single, non-parent workers) suggested that perceptions of injustice were not prominent (Wilkinson et al., 2018). Haar et al.'s and Wilkson's finding are relevant in the context of my study putting to question any beliefs or suggestions that perceptions of inequalities by single members in the ADF may influence their propensity to separate.¹⁴

A 2016 study scrutinizing women-specific family issues found women in the U.S. military were less likely to be married than their male peers, but those who were married were five times more likely to be married to a serving member (Segal et al., 2016). Military women were further found to be more prone to divorce than both their servicemen and age-matched-civilian counterparts. Segal at al. (2016) further found that U.S. service women were 12 percentage points (pp) less likely to have children than U.S. service men, but four times as likely to be a single parent.

Schneer and Reitman (2002) also found an increased prevalence of divorce in women (or at least those who had remained in the workforce for the duration of the

¹⁴ Anecdotally, work-family backlash in the ADF can manifest in such assertions as “single members are posted out of location more often,” as well as the propensity for individuals to focus less on their benefits, and more so on those that another member receives. Empirical evidence of negative attitudes toward family support mechanisms in the ADF were not able to be identified, however.



study). Their research indicated a divorce rate for females between two and four times that of men.¹⁵

Surprisingly, little to no academic literature exists as to the effects of divorce on employee performance. Allegedly, CEO's marital problems have resulted in dismissal or early retirement (Cunningham, 2014), and boards have a responsibility to their shareholders to monitor the marital status of their CEOs (Larcker et al., 2013); little is known about the impact of divorce on productivity at the professional level, however (Wheatley et al., 1991). Notwithstanding, a survey of 12 divorced female nurses from South Africa asserts that divorce is "traumatic and painful with emotional, physical, financial and social impact" that has a negative influence on work performance (Murray, 2012).

While there is extensive research into the effects of divorce on children, there exists very little academic literature as to the propensity for children to contribute to or detract from the hazard of divorce.¹⁶ Across two very different contexts (Sweden and China), however, children were found to be associated with a decrease in divorce rates, though the benefit levels off after the third child (Andersson, 1997; Erlangsen & Andersson, 2001; Xu et al., 2015). All three studies also identified a higher risk in relationships where a pre-marital birth had occurred. Potentially as an artifact of length of marriage, Anderson's early independent research also suggested that the risk of divorce increased with the youngest child's age.¹⁷

B. PARENTAL STATUS AND WORKFORCE BEHAVIORS

A number of recent U.S. studies have investigated the effects of a new child on the performance and health of military mothers and fathers. A working paper from 2022 suggests a decline in job performance in the first two years post-childbirth amongst U.S.

¹⁵ Being divorced with children was four times more common for mothers than fathers.

¹⁶ Unfortunately, I was unable to identify any western, English-speaking studies into the notion that children contribute to or detract from the risk of divorce.

¹⁷ Erlangsen and Andersson's subsequent study also found that the rate of divorce more than doubled for women in their second marriage compared to that of the rate for those in their first. Potentially suggesting cultural bias, Xu et al. also noted that male children reduce the risk more so than daughters.



Marine Corps (USMC) parents (Healy & Heissel, 2022). The impacts, predominately felt by women, appear to also affect career advancement of mothers whose promotion trajectories were seen to degrade.¹⁸ While Healy and Heissel analyze parents in the first two years post-childbirth, Schneer and Reitman examined their sample over a much longer time frame. The research into family structure's effect on career success from 2002 found that that married men with two children were most successful, seconded by married men with one child.¹⁹ Assuming success to be a reflection of, and therefore a proxy for, performance, Schneer and Reitman's study suggests that married men, and moreover married fathers, perform better than their single or non-parent counterparts

Healy and Heissel do also note that increased time away from work post-partum (as a result of changes in paid maternity leave policy), does not appear to influence mothers' promotion prospects (positively or negatively). An Australian-based study into paid parental leave did, however, find positive results on mothers' workforce behaviors.²⁰ The Australian study highlighted an increased probability of mothers returning to work in the same position held prior to childbirth as well as an improved attachment with their employers, after the introduction of nationwide paid maternity leave in 2011 (Broadway et al., 2020).

Larson (2020), Heyde and Mellendick (2021), and Healy and Heissel (2022) all find that health and physical fitness were negatively impacted by parenthood for U.S. military personnel (although Larson specifically also reported that both mothers and fathers eventually recovered to their pre-birth levels).²¹ Physical fitness effects for servicewomen were found to be greater and persisted for longer than for servicemen.

¹⁸ Neither performance nor promotion prospects were observed to degrade for fathers, excluding a decrease in physical performance in the year preceding the child's birth.

¹⁹ Males with no children were the least successful, and as previously detailed no statistically significant findings existed for the degree of a woman's career success and the structure of her family.

²⁰ The study looked into the labor supply and employment outcomes since the implementation of nationwide, publicly funded parental leave in 2011.

²¹ Larson (like Healy and Heissel), investigated USMC officers whereas Heyde and Mellendick studied U.S. Army and U.S. Navy medical officers.



Building on Larson’s previous research, Henegar (2021) investigated dual-military Marine parents. Prior to birth, both dual-military and military-civilian parents were found to be similar, but they responded differently to parenthood. All parents were again shown to experience a diminished fitness immediately following childbirth. Again, the impact was more pronounced for mothers, but dual-military fathers showed a larger decrease in physical fitness than other Marine fathers. Mothers never returned to their pre-motherhood fitness levels. Fathers were shown to experience a decrease in other performance ratings—notably, dual-military fathers displayed an immediate reduction in their performance, compared with other Marine fathers whose decline in ratings were delayed by approximately nine months.

On a different notion, increasingly, social networking is being recognized to play a crucial role in building strong workplace relationships, which in turn improves employee performance (Collins & Clark, 2003). Therefore, an interesting consideration is the potential for parenthood to affect social capital, be it through increasing connections or constraining them. A 2012 U.S. study into the possibility that parenthood increases social connection found evidence of such an association. When gender, family structure, and the presence of children less than 18 year of age were jointly considered, practically and statistically significant relationships were identified to increase with the quality of social capital. Specifically, the interaction between all three (gender, structure, and children) discovered a penalty in the quality of social networks for mothers and single parents (especially mothers) and a positive effect for fathers, married parents, and, interestingly, unmarried men (Song, 2012). Song’s research may suggest an advantage in workplace success for partnered parents (and males in general), based on the quality of social networks available to such demographics.²²

A 1991 study investigated retention behaviors among first-time mothers (as opposed to performance characteristics).²³ Focused on *occupational characteristics*, the study found that employment roles that require higher education and job-specific training

²² Social capital was rated by extensity (range of *prestige* in the evaluated occupations), diversity (total number of occupations evaluated), and quality (the largest prestige score of the evaluated occupations).

²³ The study tracked the sample from one year prior to the birth through to the child’s second birthday.



that pay higher wages tend to decrease the probability of women's withdrawal from the workforce (Desai & Waite, 1991). Despite the age of Desai and Waite's research, given the training complexity required in generating the OA workforce, such a finding provides potential for a degree of insight at least into retention of female OA members.

Also related to retention, Kol and Ryu (2002) reported that when parental status was analyzed (vice marital status), parents were approximately seven times less likely to separate than non-parents.²⁴ Phelps's 2001 study of submariners found evidence supporting Kol and Ryu's findings, reporting that when dependent children were added to the equation, the retention rate for married officers was much stronger than compared with single O3 officers.

A majority of research into the relationship between family and workforce retention in the civilian sector focuses primarily on mothers and/or the early postpartum periods, family provisions offered by the workplace, and to a lesser extent the role of childcare in retention. There appears to be very little research, if any, into the relationship between the structure and composition of family and retention habits on the private sector. Notwithstanding, a 1998 study into the effect of family-responsive workplace policy on employee retention found that policies that support family were significantly positively correlated with workplace retention, after controlling for the influence of salary, partner's income, and existing children (Glass & Riley, 1998).²⁵

In the context of family influence on employee turnover, widespread research exists into the role of work-family conflict and family-work conflict, but findings are inconsistent.²⁶ In the hotel industry, work-family conflict was found to be positively correlated with employee turnover, but the impact of the conflict on employee retention (at least among female hotel workers) was not affected by marital or parental status

²⁴ In isolation, mothers were found to be five times less likely to separate than female non-parents. Kol and Ryu further reported that rated performance increased as the number of children increased.

²⁵ Glass and Riley also found that first-time mothers were not significantly more likely to leave the labor force than mothers who already had children.

²⁶ Work-family conflict occurs where work commitments impact on family responsibilities, and family-work conflict occurs where family demands impact workforce performance (Chen et al., 2018).



(Chen et al., 2018). Conversely, another study found no relationship between work-family conflict and workplace retention. Post et al. (2009) found no direct correlation, identifying rather that family-work conflict indirectly increased employee turnover (indirectly through job dissatisfaction). A third investigation among both public and private sector workers, however, found no significant correlation between workplace turnover and family-work conflict, or between workplace turnover and work-family conflict (Aslam et al., 2011).²⁷

Not surprisingly, family structure and support and family demands and responsibilities were found to be factors for consideration in career decisions amongst successful businessmen, noting the support offered by extended family is also a contributing factor (Blanco & Golik, 2021).²⁸ The insight of family support in the context of career choices is highly relevant to my study. The ADF posts personnel, effectively altering their role and/or career, every two to three years. Postings are regularly associated with geographic relocation and often provide opportunity for overseas roles. Such posting may also preclude regular association with extended family, diminishing their role and their availability for support, thus artificially exacerbating the work and family pressures.

C. SUMMARY

Some research has occurred (in both the civilian and military sectors), as to the effects of family on performance and retention. Such studies, however, are sparse and highly focused on gender and/or the period immediately following childbirth. The existing literature clearly states that children have a stabilizing effect on both the family

²⁷ Considerations of work-family/family-work conflict need not only be applied to partnered members or parents. The *Hidden Family Lives of Single Adults Without Dependent Children* compilation (Allen & Eby, 2016; Casper et al., 2016) counters any view that singles without dependent children have no family, suggesting that such workers have a variety of family, relationship, and personal demands of greater importance than their work role (Casper et al., 2016).

²⁸ The study also found that while not all career decisions were influenced by the respondent's partner, expatriation, joining and remaining at a particular firm, and change of role or career were. Specifically, extended family were found to influence whether individuals accepted or rejected initial job offers, and how the subject maneuvered internally (noting that many of the study's participants had remained within the same company).



unit and workforce behaviors. In both the military and general public, married fathers appear to have increased performance, especially when compared with singles. Although both mothers and fathers experience decreased performance immediately following the birth of a child, women's performance (at least physically) may never return to the pre-parent levels. The direction of the relationship between performance and retention is uncertain, however—are high performers more likely to separate or are they more likely to remain (and vice versa). It is therefore unknown if the influence of family structure and composition on performance has any indirect effects of members remaining in the Service for longer or shorter than they otherwise would have. Discouragingly, women appear to experience higher divorce rates irrespective of military or civilian careers, but the effect of conflict between family and work commitments is inconclusive. Complexity of vocation and policies supporting families do appear to increase the probability of women returning to the workplace post childbirth, and such policies have been shown to increase performance and retention irrespective of gender, marital status, or parental status.

Family structure and compositions do influence career choices as well as workplace behaviors. There is a void of research that concentrates on the family unit as a whole, however. Broadening the lens to include a more expansive family outlook will both reinforce and extend the current initiatives. Combined with supporting the OA HRM strategy, the aim of my study is to add to the existing literature into family and workforce behaviors and to support initiatives that increase gender diversity, but with a broader holistic family focus.



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III. DATA AND METHODOLOGY

A. DATA

1. Overview

I used data from the ADF Defence People Group's (DPG) *Data Warehouse*, supplemented with individual specific information sourced from the ADF's personnel management system, *Personnel Management Key Solution* (PMKeyS). The dataset consists of panel data covering all trained force OA personnel who had served in the PAF at any time between 01 January 2005 and 31 December 2019.

There were 2,890 PAF OA members, of which 1,190 separated at some point during the 15-year observation period. Of those 1,190 who did separate, 102 subsequently re-entered the permanent force, 36 of whom separated a second time, and two of those 36 later re-entered. Given the small quantity of personnel who separated and/or re-entered a second time, I limit my investigations to the first separation and re-entry events.

The resultant dataset consists of 43,379 observations of 2,890 RAAF OA members until 31 December 2019.²⁹ Periodic observations of each member commence when that member first enters the OA family and cease either on the day of separation or where a member is censored due the end of the observation period (31 December 2019).³⁰ The periodic observations report all OA members in the permanent Service as of 01 January annually and are augmented where the individual experiences the birth of a child or a promotion.

The periodic observations cover basic demographic data such as gender, age, date of entry into the ADF, competency stream, promoted rank, posted location, marital status (single, married, common-law marriage, separated, divorced, or widowed), and dependent status (i.e., member with dependents (MWD) or member without dependents

²⁹ As a result of the observation period end date, any potential for inconsistencies in workforce behaviors resulting from the COVID-19 pandemic are fortuitously absent.

³⁰ In a small number of cases (59) the annual observations ceased when the member left the OA family either due to promotion to O7 rank or transfer from the OA family to another employment category.



(MWOD)). Dependent data augments the periodic observations detailing dependent type (partner, daughter, or son) and date of birth, and whether a member's partner is also a serving ADF member.

There are two distinct workforce characteristics I wish to measure: separation and re-entry. I therefore employ two separate sub-datasets and approach each of the analyses with subtle differences. I pose the following two research questions:

- **Research Question 1:** To what degree are separation behaviors of OA members associated with family structure and composition?³¹
- **Research Question 2:** To what degree are children associated with when ex-PAF OA members seek re-entry to the permanent Service (if they decide to do so).

2. Dependent Variables³²

Separated (Research Question 1). The Separated variable is the dependent (outcome) variable of interest for Research Question 1. Separated is a time-varying indicator variable assigned a value of 1 if the observation was a separation event and 0 in all other instances.

Re-entered (Research Question 2). The Re-entered variable is the dependent (outcome) variable of interest for Research Question 2. Re-entered is a time-varying indicator variable assigned a value of 1 if the observation was a re-entry event and 0 in all other instances.

3. Independent Co-variates

Parent. Parent (has children) is a fixed (non-time-varying) indicator variable assigned a value of 1 if the member ever has a dependent child detailed during the observation period and 0 in all other instances.

³¹ I define *family structure and composition* as marital status, parental status, and the number and ages of dependent children.

³² See Appendix C, Section B, Table 10 (Research Question 1) and Table 11 (Research Question 2) for summary of the variables by Research Question, ordered alphabetically.



Marital Status. Marital status is a fixed (non-time-varying) categorical variable consisting of three possible values: Single, Partnered, or Formerly partnered. A member is assigned a value of *Single* if their PMKeyS recorded marital status is Single, their PMKeyS recorded dependent status is MWOD, and they do not have spousal details listed in their dependent data. A member is assigned a value of *Partnered* if their PMKeyS recorded marital status is Married or Common-Law, their PMKeyS recorded dependent status is MWD, and they have spousal details listed in their dependent data. A member is assigned a value of *Formerly partnered* if their PMKeyS recorded marital status is Divorced or Separated, if their PMKeyS recorded dependent status is MWOD and they have spousal details listed in their dependent data, or if their PMKeyS recorded marital status is Married or Common-Law and their PMKeyS recorded dependent status is MWOD.³³

Partnered serving member. Partnered serving member is a fixed (non-time-varying) indicator variable assigned a value of *1* if the member is partnered and their spouse is also an active ADF member and *0* in all other instances.

Single parent. Single parent is a fixed (non-time-varying) indicator variable created by assigning a value of *1* if the member ever has a dependent child detailed during the observation period and their assigned marital status is either Single or Formerly partnered. Single Parent is a value of *0* in all other instances.

Female. Female is a fixed (non-time-varying) indicator variable assigned a value of *1* if the member's gender was recorded as female and a value of *0* in all other instances.

Mother. Mother is a fixed (non-time-varying) indicator variable created by interacting the Parent variable and the Female variable. Mother is assigned a value of *1* if the member's gender was recorded as female and the member ever has a dependent child detailed during the observation period and a value of *0* in all other instances.

³³ See *Data Limitations* (Section B to this chapter) for further detailed background regarding the coding of the marital status variable.



Family size. The *Family size* variable is a time-varying categorical variable with three possible values: No children, Single child, or Multiple children. An observation was assigned a value of *No children* if there were no children recorded in the member's dependent data or the child's birthdate pre-dated that observation point. An observation was assigned a value of *Single child* if there was one child recorded in the member's dependent data who had a birthdate on or after that observation point. An observation was assigned a value of *Multiple children* if there were between two and seven children recorded in the member's dependent data whose birthdates were on or after that observation point.³⁴

Single-child family. Single child family is a fixed (non-time-varying) indicator variable created by assigned a value of *1* if the member only ever has one dependent child detailed in their dependent data at any time during the observation period. Single child family is assigned a value of *0* in all other instances.

Twins. Twins is a time-varying indicator variable assigned a value of *1* if at that observation point the member's dependent data details two (or more) children with the same date of birth, and their dates of birth occurred on or after the observation date. Twins is assigned a value of *0* in all other instances.³⁵

Child's age. Investigating the relationship between separation and child's age using a numeric value was considered far too complex for the population size. Child's age was therefore grouped via school-aged milestones (see Chapter I, Section B, Sub-section 2c). School age is a time-varying, categorical variable consisting of eight possible values. Based on child's age specified in the member's dependent data details at that particular observation date, an observation was assigned a value of *Not yet born* if the member would not have children, or if the child was not yet born; *Infant* if less than 18 months old; *Toddler* if at least 18 months old but less than 4.5 years of age; *Kindergarten*

³⁴ The Family size variable was also tested against integer values for the individual number of children; values of 0, 1, 2, 3, 4 or 5+ children; and grouped via no children, single child, 2 or 3 children, or 4+ children.

³⁵ Across the sample, 52 OA members were recorded as meeting the *twins*' criteria, representing 1.8% of the sample.



if at least 4.5 years of age but less than 5.5 years of age; *Primary School* if at least 5.5 years of age but less than 12.5 years of age; *Jnr Secondary School* if at least 12.5 years of age but less than 15.5 years of age; *Snr Secondary School* if at least 15.5 years of age but less than 19 years of age; or *Finished School* if at least 19 years of age.

Child has started school. Child has started school is a time-varying indicator variable. Based on child's age specified in the member's dependent data details at that particular observation date, an observation was assigned a value of *1* if at least 4.5 years of age. Child has started school is assigned a value of *0* in all other instances.

4. Control Variables

Several factors unrelated to family composition and structure may also affect members' motivation and/or their opportunity to separate or remain. For example, a pilot (FWP and FJP competency streams) or air traffic controller (ATC competency stream) may have greater opportunity for employment outside of the military than members from the other competency streams. Likewise, a member who is subject to protected service has a far diminished opportunity to separate than an individual who is not. Equally, there are a number of factors, unrelated to parental status or children's ages, that may also affect a member's motivation, as well as their opportunity to re-enter (including the Service's acceptance of the member's application). As a result, the following control variables were used in my research.³⁶

a. *Research Question 1 (Separation Behaviors) Control Variables*

Length of permanent service (LoS). LoS is a time-varying categorical variable grouped into seven possible values: less than 2 years, between 2 and 5 years, between 5 and 10 years, between 10 and 15 years, between 15 and 20 years, between 20 and 25 years, or greater than 25 years.

³⁶ I considered incorporating additional control variables for each analysis, but those controls were excluded to reduce complexity in my model(s) and for additional reasons specified in Appendix C, Section C.



Protected service. Protected service is a time-varying indicator variable. An observation is awarded a value of 1 if, for the member’s competency stream, their length of permanent service, at that observation point, is below the pre-OA reform values detailed in Chapter I, Section B, Sub-section 3c(2).³⁷

MSBS Retention Benefit eligible. MSBS Retention Benefit eligible is a time-varying indicator variable. An observation is awarded a value of 1 if the member is in the ATC competency stream or they have been promoted to O4, O5, or O6 rank (in all other streams), and they are between 15 and 20 years of service.³⁸

Wage System. Wage System is a time-varying categorical variable, with three possible values—OCS, GOPS (OARS1), or OAPS (OARS3)—indicating the wage system in use at the time of that observation.

Age when hired. Age when hired is a fixed (non-time-varying) categorical variable grouped into five possible values: less than 18 years of age, 18 or 19 years of age, between 20 and 24 years of age, between 25 and 29 years of age, or greater than 30 years of age.³⁹

Competency stream. Competency stream is a fixed (non-time-varying) categorical variable based on which competency stream the individual member is placed in (see Chapter I, Section B, Sub-section 3).

b. Research Question 2 (Re-Entry Behaviors) Control Variables

Length of time out (LoTO). LoTO is a time-varying categorical variable assigned an integer value of between 1 year and 15 years, calculated by subtracting the date of observation from the date of separation, and rounding up to the next whole year.

³⁷ Consistent, credible data specifying an individual’s obligation(s) at each observation was unable to be sourced. Therefore, the assumptions made to control for covered service, while not ideal, provide for an adequate representation of protected service for the purposes of my research.

³⁸ Consistent, credible data specifying whether an individual member accepted the MSBS Retention Benefit was unable to be sourced.

³⁹ +/- one year (see *Data Limitations* (Section B to this chapter) for further detailed background regarding the accuracy of age-related variables).



Age when separated. Age when separated is a fixed (non-time-varying) categorical variable assigned an integer valuable to the individual member's age when they first separated.³⁹

Competency stream. Competency stream is a fixed (non-time-varying) categorical variable based on which competency stream the individual member is placed in (see Chapter I, Section B, Sub-section 3).

5. Descriptive Statistics

There were 2,890 OA members who served in the permanent Service at some point during 01 January 2005 and 31 December 2019. Of the 2,890 personnel, 1,190 have separated from the PAF since their initial entry, and 1,700 have remained in the Service as of 31 December 2019.⁴⁰ Table 1 (Research Question 1) and 2 (Research Question 2) display descriptive statistics for each of the sub-datasets.⁴¹

Both Table 1 and 2 highlight the relatively low female participation rate within OA. Only 287 women, 84 mothers, contribute to the Research Question 1 data subset, and only 85 of 1,190 who separated during the observation period were female. It is likely that insufficient observations exist on female workforce behaviors to identify significant differences between the genders.

Over half of both samples are parents, and the majority of OA members are currently in a recognized relationship or were at some point. Of note, Table 2, when compared with the representation of the three marital states in Table 1, demonstrates that a lower proportion of partnered members separate than single or formerly partnered personnel. Similarly, a lower proportion of parents appear to separate, informing a preliminary hypothesis that partnered members and those with children are likely less prone to separation risk. A total of 48% of OA are in one of the two pilot categories (FWP and FJP) and approximately 9% of ex-PAF personnel have successfully re-entered.

⁴⁰ A total of ,59 members transferred out of the OA family whilst remaining in the ADF.

⁴¹ For indicator variables (e.g., Parent) Column 1 reports the relative proportion and the remaining columns are of no valuable meaning.



A greater proportion of pilots and air traffic controllers re-enter than the other streams, which may skew my results. Appendix C, Section A provides for detailed statistics on each of the sub-datasets by the independent variables of interest.⁴²

Table 1. Descriptive Statistics Research Question 1 (Separation)

	Mean (1)	Std Dev (2)	Median (3)	Min (4)	Max (5)	Count (6)
Age when hired (years) ¹	21.209	5.489	19.000	15.000	52.000	2890
Length of service (years)	16.633	9.028	15.116	0.068	43.034	2890
Female (x100%)	0.099	0.299	0.000	0.000	1.000	2890
Male (x100%)	0.901	0.299	1.000	0.000	1.000	2890
Parent (x100%)	0.533	0.499	1.000	0.000	1.000	2890
Age when first dependent child born (years) ^{1,2}	30.127	4.591	30.000	12.000	49.000	1539
Single parent (x100%) ³	0.236	0.425	0.000	0.000	1.000	1539
Number of children ⁴	2.024	0.889	2.000	1.000	7.000	1539
Single child family (x100%) ³	0.285	0.452	0.000	0.000	1.000	1539
Mother (x100%)	0.029	0.168	0.000	0.000	1.000	2890
Father (x100%)	0.503	0.500	1.000	0.000	1.000	2890
Single (x100%)	0.169	0.374	0.000	0.000	1.000	2890
Partnered (x100%)	0.637	0.481	1.000	0.000	1.000	2890
Partnered serving member (x100%) ⁵	0.098	0.297	0.000	0.000	1.000	1841
Formerly partnered (x100%)	0.194	0.396	0.000	0.000	1.000	2890
Number of relocations	2.102	1.793	2.000	0.000	9.000	2890
FWP	0.356	0.479	0.000	0.000	1.000	2890
FJP	0.124	0.329	0.000	0.000	1.000	2890
ATC	0.211	0.408	0.000	0.000	1.000	2890
WSO	0.039	0.193	0.000	0.000	1.000	2890
AMO	0.031	0.175	0.000	0.000	1.000	2890
MPRO	0.087	0.282	0.000	0.000	1.000	2890
ABM	0.119	0.324	0.000	0.000	1.000	2890
AEO	0.034	0.180	0.000	0.000	1.000	2890
Separated (x100%)	0.412	0.492	0.000	0.000	1.000	2890

¹ +/- one year.

² Non-parents excluded.

³ As a proportion of parents (non-parents excluded).

⁴ Average number of children in families that have children (non-parents excluded).

⁵ As a proportion of partnered members (single and formerly partnered excluded).

⁴² Table 7 provides summary statistics by parental status and marital status (Research Question 1). Table 8 provides summary statistics by number of children (Research Question 1). Figure 10 details the Research Question 1 data subset, displaying the sample via family structure. Table 9 provides summary statistics by parental status (Research Question 2). Figure 11 details the Research Question 2 data subset, displaying the sample via parental status.



Table 2. Descriptive Statistics Research Question 2 (Re-entry)

	Mean (1)	Std Dev (2)	Median (3)	Min (4)	Max (5)	Count (6)
Age when initially hired (years) ¹	21.643	6.404	19.000	15.000	52.000	1190
Age when separated (years) ¹	40.365	9.226	38.000	21.000	62.000	1190
Length of service at separation (years)	18.855	9.077	16.946	1.870	43.034	1190
Length of time since separation (years)	6.990	4.587	6.548	0.003	14.995	1190
Female (x100%)	0.071	0.258	0.000	0.000	1.000	1190
Male (x100%)	0.929	0.258	1.000	0.000	1.000	1190
Parent (x100%)	0.597	0.491	1.000	0.000	1.000	1190
Became a parent since separating ²	0.275	0.448	0.000	0.000	1.000	102
Age when first dependent child born (years) ^{1,3}	30.037	4.656	30.000	16.000	46.000	710
Single parent (x100%) ⁴	0.454	0.498	0.000	0.000	1.000	710
Number of children ⁵	2.104	0.925	2.000	1.000	7.000	710
Has single child (x100%) ⁴	0.239	0.427	0.000	0.000	1.000	710
Mother (x100%)	0.022	0.146	0.000	0.000	1.000	1190
Father (x100%)	0.575	0.495	1.000	0.000	1.000	1190
Single (x100%)	0.134	0.341	0.000	0.000	1.000	1190
Partnered (x100%)	0.473	0.499	0.000	0.000	1.000	1190
Partnered serving member (x100%) ⁶	0.062	0.242	0.000	0.000	1.000	563
Formerly partnered (x100%)	0.392	0.488	0.000	0.000	1.000	1190
FWP	0.390	0.488	0.000	0.000	1.000	1190
FJP	0.114	0.318	0.000	0.000	1.000	1190
ATC	0.219	0.414	0.000	0.000	1.000	1190
WSO	0.035	0.185	0.000	0.000	1.000	1190
AMO	0.042	0.201	0.000	0.000	1.000	1190
MPRO	0.080	0.271	0.000	0.000	1.000	1190
ABM	0.075	0.263	0.000	0.000	1.000	1190
AEO	0.045	0.206	0.000	0.000	1.000	1190
Re-Entered (x100%)	0.086	0.280	0.000	0.000	1.000	1190

¹+/- one year.

²As a proportion of members who re-entered (censored members excluded).

³Non-parents excluded.

⁴As a proportion of parents (non-parents excluded).

⁵Average number of children in families that have children (non-parents excluded).

⁶As a proportion of partnered members (single and formerly partnered excluded).

B. DATA LIMITATIONS

My dataset contains a number of restrictions that combined are not insurmountable but which may limit the potency of my results. A clear restriction for my analysis is the inability to continue to observe what occurs (with respect to members' family compositions and structures) after a separation event (except for the 102 members who re-entered the Service after their earlier separation). Being unable to compare ex-PAF members after their separation constrains in-depth, like-for-like analysis of Research Question 1, but more drastically, Research Question 2.

The next greatest constraint, as it most affects my research, is that dependent and marital status do not vary with time. Rather, an individual's dependent and marital status



is reported as that which they were on the date of their final observation (separation or censoring), meaning that I cannot see when marital status changes.

Analysis regarding marital status is further complicated by the fact a member's recorded (PMKeyS) marital status is subject to their individual submission(s). As an example, where a member was married, and subsequently separates or divorces, that member's marital status may be recorded as *separated*, *divorced*, or *single*. Such indeterminable inconsistencies will add statistical noise to the estimate of family structure on retention.

Notwithstanding, because a member's dependent status (MWD or MWOD) is directly linked to their CoS, members' dependent status is credible. Furthermore, where a member was previously partnered, their last spouse or partner's details remain extant in the dependent data until replaced by a subsequent spouse's data. Therefore, where a member's dependent status is MWOD, and they have partner details recorded, I code their marital status as formerly partnered. As a result, analysis contingent on an individual's marital status (single, partnered, or formerly partnered) was able to be conducted with a large degree of certainty as to its accuracy.

Furthermore, the ability to accurately detect a member's date of entry into trained force OA is inconsistent, and I am unable to accurately observe if a member transferred into the OA family from another employment category (explaining why an individual's length of service data may be excessive). Similarly, members' competency stream is reported as the stream they were placed in at final observation. Therefore, I am unable to evaluate where, for example, an FWP undertakes additional training and is subsequently placed in the FJP stream. Ultimately, the most robust analysis would incorporate a member's entry into the ADF, their entry into the OA trained force, and any transfers between competency streams.

Another potential problem is that while a member's posted locality is reported periodically, it is not possible to determine if a member has relocated multiple times during that 12-month period. Further limiting my analysis of relocation effects is the inability to view the number of relocations that member was subject to prior to their



initial observation. The limitation regarding the relocation results in multicollinearity with length of permanent service data, precluding meaningful analysis of postings on separation behavior.

Finally, albeit a minor shortcoming, the data reports each individual's age annually as of 01 January, but their date of birth is absent. As a result, any exploration regarding members' age is only accurate to within +/- one year.

C. METHODOLOGY

To establish the relationships between separation (or retention) and re-entry behaviors and the structure and composition of a member's family, my study employs linear regression analysis. I specifically use the computer program Stata 17 (resident on MacOS Monterey), to run linear probability models (LPM). Other methods were considered, but LPM allows me to directly interpret the percentage point (pp) increase or decrease, to the overall probability of separation or re-entry, based on specific treatments (when compared with the control/omitted categories). As an example, the five-year average rolling annual separation rate across the OA workforce was 5.04%.⁴³ Therefore, a 2.5pp reduction in separation risk can be interpreted as approximately half as likely, and a 5pp increase about twice as likely, when compared against the base rate (5.04%).

Nuanced differences exist between Research Question 1 and Research Question 2 as to the effects I am trying to measure, but both examinations have at their core the effect of children on the respective outcome of interest. A standard difference-in-difference model would assess the onset of treatment to isolate the average treatment effect on the treated (Norris et al., 2021). In my case, the treated *parents* would require comparison of members before and after they become a parent, and then as the numbers and age(s) of children increase, with those members who never have children. The obvious problem posed by this approach is that all the parents (whom I am able to observe to become parents) were parents while in the Service. Therefore, similar to

⁴³ The five-year rolling average separation rate (taken monthly) for the period January 2015 through December 2019 inclusive was 5.04%, peaking at 6.58% in January 2019, and bottoming at 3.47% in December 2016. The average separation rate for the entire observation period was 5.56%.



Norris et al., I investigated the time-varying children’s effects by interreacting the *Parent* variable with the other children-related variables of interest. I detail my regressions models for Research Question 1 (separation) and Research Question 2 (re-entry) below.

1. Research Question 1

Research Question 1 examines the degree to which the separation behaviors of OA members are associated with their family structure and composition. I define family structure and composition as consisting of marital status (single, partnered, or formerly partnered), parental status (no children or parent), family size (number of dependent children), and the ages for school milestone of those dependent children. In building the understanding of the relative interdependent relationships, I tested the following econometric models.

My research was focused by first determining if separation behaviors differ between parents and non-parents and between single, partnered, and formerly partnered members:

$$Separated_{itpmw} = \alpha Parent_i + \mathbf{Marital\ status}_i \beta + \rho Partnered\ serving\ member_i + X_{itpmw} \boldsymbol{\theta} + \varepsilon_{itpmw} \quad (i)$$

where $Separated_{itpmw}$ is the probability of a member’s separation event i at LoS t . The coefficients of interest are α , which provides an estimate of the non-time-varying differences between members who become parents during the observation periods, and those I do not observe becoming parents; β , which estimates the relative difference between partnered⁴⁴ or formerly partnered members with single members; and ρ , which details the estimate of the difference between OA members partnered with another permanent ADF member, and those who are partnered with a civilian. The model also includes, in X_{itpmw} , the controls detailed in Subsection 4a to this section (LoS, protected service, MSBS Retention Benefit eligibility, wage system, and competency stream). Importantly, controlling for LoS will account for changes to the probability that

⁴⁴ The co-efficient for partnered members (in isolation of the partnered serving member interaction variable) estimate the relative risk for members whose partner is not a permanent ADF member.



someone leaves after a given length of service. The coefficients measure whether someone is more (or less) likely to separate if they have the given characteristics, above and beyond the length of service level specified.⁴⁵

Once I had established the relative relationships between parental status and marital status, I investigated the effect of increasing the size of the family (on an OA member's propensity to separate):

$$\text{Separated}_{itpmw} = \alpha \text{Parent}_i + \text{Parent}_i \times \text{Family Size}_{it} \delta + \iota \text{Parent}_{i_i} \times \text{Single Parent}_i + \mathbf{X}_{itpmw} \boldsymbol{\theta} + \varepsilon_{itpmw} \quad (ii)$$

where the newly introduced coefficients of interest estimate the respective differences as family size (δ) increases (relative to a member with no children),⁴⁶ and ι represents the effect of being a single parent (single or formerly partnered) compared with those parents in a recognized relationship. The outcome variable, coefficient on parent (α), and controls (\mathbf{X}_{itpmw}) retain their same interpretation from Equation i.⁴⁷

With a clear understanding of the effects of family size on the probability of separation, I subsequently considered the effect of the school milestones of dependent children (based on the child's age):⁴⁸

⁴⁵ Additional models including the *female*, *mother*, and *single parent* co-variates were investigated but were found to be statistically non-significant (see Table 12 in Appendix D, Section A).

⁴⁶ As detailed in footnote 34 and displayed in Table 4, the family size variable was tested against three possible interdependent categories to determine the most appropriate definition to determine the effect of family size on separation risk.

⁴⁷ Additional models including the *female*, *mother*, and *twins* co-variates were investigated but were found to have low statistical power given the small number of females and twins in the data (see Table 13 in Appendix D, Section A).

⁴⁸ Investigating the relationship between separation and child's age using a numeric value was considered far too complex for the population size. Child's age was therefore grouped via school-aged milestones, but family sizes and the differences between the ages of children within the family vary considerably across the sample. As an example, one family may have one child at a specific school milestone, whereas another may have multiple children at the same milestone or split amongst two or more milestones. Therefore, to simplify my analysis, I assumed that members would apply any career considerations regarding their children's schooling to their eldest child.



$$\text{Separated}_{itpmw} = \alpha \text{Parent}_i + \text{Parent}_i \times \text{Child's age}_{it} \phi + \delta \text{Parent}_i \times \text{Single child family}_{it} + \text{Marital status}_i \beta + X_{itpmw} \theta + \varepsilon_{itpmw} \quad (iii)$$

where ϕ estimates the relative effect as the eldest child progresses through each of the various school milestones, compared with when a member had a child less than 18 months old; and δ is of the same practical effect as in Equation ii, estimating the relative difference between those parents who would only ever have one child during the observation period compared with those who would have multiple children. Because I have controlled for LoS and other important influences on the propensity to separate, ϕ can be interpreted as the additional probability of attrition compared with a parent whose child is less than 18 months of age. The outcome variable, co-efficient on parent (α), parameter estimate on marital status (β), and controls (X_{itpmw}) retain their same interpretation from Equation i and Equation ii.⁴⁹

Finally, taking on board the results of Equation i, Equation ii, and Equation iii, I had an understanding of the potential (independent) effects of family composition and structure on the probability of an OA member's separation. I combined my findings to specifically address Research Question 1 by testing the econometric model:

$$\text{Separated}_{itpmw} = \alpha \text{Parent}_i + \text{Parent}_i \times \text{Child has started school}_{it} \psi + \delta \text{Parent}_i \times \text{Single child family}_{it} + \text{Marital status}_i \beta + \rho \text{Partnered serving member}_i + X_{itpmw} \theta + \varepsilon_{itpmw} \quad (1)$$

where ψ represents the effect of when the eldest child first commences school, is in school, or has finished school, relative to when that child was pre-school. All other coefficients (including outcome variable and X_{itpmw}) retain their same interpretation as in Equation iii.

⁴⁹ Additional models including the *female*, *mother*, *single parent*, and *twins* co-variables were investigated but were found to have low statistical power given the small number of females and twins in the data (see Table 14 in Appendix D, Section A).

2. Research Question 2

Research Question 2 examines the degree to which having children, and the ages of those children, are associated with successful re-entry of ex-PAF OA members into the permanent Service. Of the 2,890 OA members analyzed in Research Question 1, 1,190 separated from the permanent service, thus forming the Research Question 2 population. The resultant sub-dataset therefore consists of 1,292 actual observations (1,190 separations and 102 re-entries), but to enable my research I assumed that the ages of children (born prior to separation) would increment by one year annually. Coupled with those re-entrants who experienced additional childbirth since separation (21 of the 102 members), I had 10,194 entries for analysis.

Similar to Research Question 1, I am interested as to any relationship between marital status and the number of children in a family with a member's potential re-entry. My dataset does not allow me to explore such correlations, however. As forementioned, marital status is fixed at the last observation (see Section B to this chapter). Therefore, I cannot assess whether a change in marital status occurred since initial separation for those members who re-entered. In any case, were I able to analyze such changes in marital status, I still cannot compare similar switching with those members who did not re-enter. Equally, while I am able to observe where a member who re-entered had children since their separation, I am unable to compare similar changes in the family composition with those personnel who did not re-enter the PAF. In sum, my analysis of re-entry behaviors is substantially limited by the characteristics of my data. While the dataset limits the complexity of my analysis, it unfortunately also restricts the depth of my findings. To address Research Question 2, I tested the following econometric models:⁵⁰

$$\text{Reentered}_{it} = \alpha \text{Parent}_i + \text{Parent}_i \times \text{Child's age}_{it} \phi + \gamma \text{Female}_i + \mu \text{Mother}_i + \text{Y}_{it} \theta + \varepsilon_{it} \quad (iv)$$

⁵⁰ For consistency (see footnote 34) and to simplify my research, analysis for Research Question 2 was again applied to the eldest child only.



$$Reentered_{it} = \alpha Parent_i + \psi Parent_i \times Child\ has\ started\ school_{it} + \gamma Female_i + \mu Mother_i + Y_{it}\theta + \varepsilon_{it} \quad (v)$$

where $Reentered_{it}$ is the probability of a member's re-entry event i after a period of time outside of the PAF (LoTO) t . The coefficients of interest are ϕ (Equation iv), which estimates the relative effect as the eldest child progresses through each of the various school milestones, compared with when a member had a child less than 18 months old; and ψ (Equation v), which represents the effect of when the eldest child first commences school, is in school, or has finished school, relative to when that child was pre-school. The model also includes a gender co-variate, γ , which estimates relative difference of female members⁵¹ compared with their male counterparts, and μ , which estimates the difference of mothers with females who have no children. Controls (detailed in Subsection 4b to this section (LoTO, age when separated, and competency stream) are contained in Y_{it} .

Finally, taking on board the results of Equation iv and Equation v, I addressed the simplified Research Question 2 by analyzing the following econometric model:

$$Reentered_{it} = \alpha Parent_i + \gamma Female_i + \mu Mother_i + Y_{it}\theta + \varepsilon_{it} \quad (2)$$

The model specified in Equation 2 is similar to those models in Equation iv and Equation v. Taking on board my findings from those prior two analyses, however, I remove the non-significant covariates to reduce complexity. α 's value can therefore be interpreted as the difference in probability of re-entry between a male ex-PAF member who I did not observe to have children and an ex-PAF member who is a father. γ estimates the difference between a female non-parent and a male non-parent. The difference between a female ex-PAF member without children and an ex-PAF mother (holding all other factors, including those controls at Y_{it} , equal) is represented by μ . Re-entered and θ retain their same interpretation as in Equation iv and Equation v.

⁵¹ The co-efficient for female (in isolation of the mother interaction variable) estimates the relative probability of re-entry for females who separated with no children.

IV. RESULTS

A. SEPARATION BEHAVIORS AND FAMILY (RESEARCH QUESTION 1)

Research Question 1 examines the degree to which the separation behaviors of OA members are associated with family structure and composition. To test question 1, I employed a dataset covering the entire OA population over the period 01 January 2005 through 31 December 2019, or until first separation event. I ran a series of LPM models that included controls for members' competency stream, their age when they first entered the ADF, their length of permanent service, whether they were subject to protected service or eligible for the MSBS Retention Benefit at the time of observation, and the wage system that was in use at time of each observation. I first ran models which estimated the likelihood of separation based on parental status (ever being a parent, or not having children during the observation period) and marital status (single, partnered or formerly partnered).

Initial results indicated that, holding length of service and the other control variables constant, a member who has at least one child at any point in the observation period is 3pp less likely to separate than a member not observed to have children, irrespective of marital status (see Table 3, column 1). Single parents (either single or formerly partnered) were an exception to this pattern: I observed a 1.5pp increase in the likelihood of separation among single parents when compared with non-parents (Table 3, column 2). To put these figures into perspective, parents are approximately half as likely to separate compared with members who never have children; and single parents are approximately 27% more likely when compared with the non-parents.

My initial results further indicated that, independent of parental status, members in a recognized relationship are 3.7pp less likely to separate. In context, the member who is partnered is approximately one third less likely to separate than a single member, and



more than two-thirds less likely than a formerly partnered member (Table 3, column 3).⁵² There was a further 10% decrease in the probability of separation observed in those OA members in a recognized relationship with a permanent serving ADF member, compared with single members (see Table 3, column 4).⁵³

Considering the conjoined effect of both variables (parental status and marital status), my results indicated that partnered members who ever have children are more than 70% (4.5pp) less likely to separate than single members who I do not observe to become parents (Table 3, column 5).⁵⁴

Table 3. Relationship between Separation, Parental Status, and Marital Status

	(1)	(2)	(3)	(4)	(5)	(6) <i>Equation i</i>
Parent	-0.030*** (0.002)	-0.039*** (0.002)			-0.022*** (0.003)	-0.023*** (0.003)
Single parent		0.054*** (0.003)				0.004 (0.007)
Single						
Partnered			-0.037*** (0.003)	-0.036*** (0.003)	-0.023*** (0.004)	-0.022*** (0.004)
Formerly partnered			0.020*** (0.004)	0.020*** (0.004)	0.031*** (0.005)	0.029*** (0.006)
Partnered serving member				-0.007* (0.003)	-0.006* (0.003)	-0.006* (0.003)
Constant	0.056*** (0.002)	0.055*** (0.002)	0.059*** (0.003)	0.059*** (0.003)	0.063*** (0.003)	0.062*** (0.003)
Observations	33185	33185	33185	33185	33185	33185
R-Squared	0.022	0.030	0.031	0.032	0.034	0.034
Marital Status p-value ¹			0.000	0.000	0.000	0.000

Outcome variable in all specifications is 'Separated', clustered on the individual member. Standard Errors in parentheses.

Models include (but do not display) controls for length of permanent service, protected service, MSBS Retention Benefit eligibility, wage system in use, age when hired, and competency stream. See Table 20 for control specific parameter estimates.

¹ Represents the p-value for the F-Test that the parameter estimates are equal for partnered and formerly Partnered

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

⁵² Noting the aforementioned limitations of the marital status variable (see Chapter III, Section B), additional models were investigated with re-entrant data removed as well as with PMKeyS reported marital status (see Appendix D, Section C, Table 23). Results were consistent that partnered members have a higher rate of retention.

⁵³ OA members who are parents and partnered with other serving members were found to be 81% less likely to separate than single non-parents.

⁵⁴ Interactions between the parent variable and the marital status variables were non-significant, indicating no systematic difference in the effect of parenthood between the three marital states (see Table 12 (Appendix D, Section A)).



I next investigated the differences in separation risk as family size increased with time. My results indicated variation in separation behaviors as the family size increased (albeit the difference as the family grows was only moderately significant). Also, findings as to the positive effect of parenthood between retention were re-enforced. As an example, model 2 found that once a member actually became a parent, the propensity to separate decreased by 2.9pp (see Table 4, column 2).⁵⁵

For each of the Table 4 models, I conducted F-Tests between the distinctive family sizes (no-child families, single-child families, and families of two or more children), finding that beyond two children, there is no change in the likelihood as the number of children increased.

In Model 2, for example, there were significant differences found between a family with two children compared to a family before the first child was born, but the F-Test found no statistically significant differences between a two-child family and a three-child family. The results from the F-Test in Model 2 thus informed Model 3, and those from Model 3 informed Model 4. Model 4's F-Test found marginally statistically significant evidence of a delta between single-child and 2+-child families.

When Model 4 was then considered alongside the single-parent covariate (effectively testing the interaction between marital status and being a parent), the statistical significance of the difference between single-child and 2+-child families grew. Of more practical significance, holding all other factors equal, single parents were found to be 5.3pp (between 2.5 and 3.5 times) more likely to separate than partnered parents (Table 4, column 5).⁵⁶

⁵⁵ Table 4 Model 2 estimated that, compared with a member whom I would never observe becoming a parent, a person who would eventually become a parent is 4pp less likely to separate when they do not have a child (holding all other factors equal). Once the child was born, the probability of separation increased by 1.1pp, which remains 2.9pp lower than members with no children ever observed.

⁵⁶ Initial indications were that the larger the family size, the greater the propensity to separate (0.6pp higher for multiple-child families compared with single-child families). As detailed in Table 5, column 6, however, when all covariates were combined, single-child families were found to be approximately 1pp more likely to separate than multiple-child families.



Table 4. Relationship between Separation and Family Size

	(1)	(2)	(3)	(4)	(5) <i>Equation ii</i>
Parent	-0.030*** (0.002)	-0.040*** (0.002)	-0.040*** (0.002)	-0.040*** (0.002)	-0.045*** (0.002)
No children					
Single child		0.011*** (0.002)	0.011*** (0.002)	0.011*** (0.002)	0.006* (0.002)
2 children		0.018*** (0.003)			
3 children		0.016*** (0.004)			
4 children		0.006 (0.007)			
5+ children		0.033* (0.014)			
2 or 3 children			0.018*** (0.002)		
4+ children			0.011 (0.006)		
Multiple children (2–7)				0.017*** (0.002)	0.012*** (0.002)
Single parent					0.053*** (0.003)
Constant	0.056*** (0.002)	0.055*** (0.002)	0.055*** (0.002)	0.055*** (0.002)	0.054*** (0.002)
Observations	33185	33185	33185	33185	33185
R-Squared	0.022	0.023	0.023	0.023	0.031
Family size p-value		0.585 ¹	0.332 ²	0.055 ³	0.039 ³

Outcome variable in all specifications is ‘Separated’, clustered on the individual member. Standard Errors in parentheses. Models include (but do not display) controls for length of permanent service, protected service, MSBS Retention Benefit eligibility, wage system in use, age when hired, and competency stream. See Table 21 for control specific parameter estimates. Average children per family with children is 1.85. Average children per multi-child family is 2.19.

¹ Represents the p-value for the F-Test that the parameter estimates are equal for two- and three-child families.
² Represents the p-value for the F-Test that the parameter estimates are equal for 2/3- and 4+-child families.
³ Represents the p-value for the F-Test that the parameter estimates are equal for single-child and multiple-child families.
* p < 0.05, ** p < 0.01, *** p < 0.001

Finally, I focused my investigation on the effect of children’s ages on separation behaviors. Children’s ages were grouped via school-aged milestones and my analysis was focused on the eldest child.⁵⁷ As shown in Table 5, column 2 through column 5 the likelihood of separation increased once a member’s child commenced school, but there was no discernible difference between phase(s) of school. Again (as per the Equation ii (Table 4) models), I investigated the differences between the individual values of the child’s age variable via a series of F-Tests. As shown in Table 5 (see note 2), statistically

⁵⁷ Alternate models were tested replacing the child’s age variable with youngest child data, and analyzing both youngest and eldest child simultaneously (see Appendix D, Section A, Table 16 and Table 17).



significant evidence of a difference between the various school-aged milestones was only found between when a child was a toddler compared to once they had commenced any schooling.

Table 5. Relationship between Separation and (Eldest) Child's Age

	(1)	(2)	(3)	(4)	(5) <i>Equation iii</i>	(6) <i>Equation 1</i>
Parent	-0.030*** (0.002)	-0.028*** (0.003)	-0.034*** (0.003)	-0.019*** (0.003)	-0.024*** (0.003)	-0.021*** (0.003)
Infant (<18 months)						
Toddler (1.5–4.5 yo)		0.012*** (0.003)	0.014*** (0.003)	0.012*** (0.003)	0.014*** (0.003)	
Kindergarten (4.5–5.5 yo)		0.025*** (0.007)	0.027*** (0.007)	0.024*** (0.007)	0.026*** (0.007)	
Primary School (5.5–12.5yo)		0.025*** (0.004)	0.027*** (0.004)	0.025*** (0.004)	0.027*** (0.004)	
Jnr Secondary School (12.5–15.5yo)		0.014* (0.006)	0.017** (0.006)	0.014* (0.006)	0.015* (0.006)	
Snr Secondary School (15.5–19yo)		0.020** (0.007)	0.022** (0.007)	0.017* (0.007)	0.018** (0.007)	
Finished School (>19 yo)		0.019*** (0.003)	0.018*** (0.003)	0.021*** (0.003)	0.019*** (0.003)	
Child has started school						0.014*** (0.002)
Single Child Family			0.013*** (0.003)		0.011*** (0.003)	0.009*** (0.003)
Single						
Partnered				-0.024*** (0.004)	-0.024*** (0.004)	-0.023*** (0.004)
Formerly partnered				0.031*** (0.005)	0.031*** (0.005)	0.031*** (0.005)
Partnered serving member						-0.007* (0.003)
Constant	0.056*** (0.002)	0.036*** (0.003)	0.038*** (0.003)	0.042*** (0.004)	0.043*** (0.004)	0.049*** (0.004)
Observations	33185	33185	33185	33185	33185	33185
R-Squared	0.022	0.024	0.024	0.035	0.035	0.035
Young child p-value ¹		0.980	0.993	0.930	0.920	
Young child p-value ²		0.003	0.002	0.003	0.002	
Senior school p-value ³		0.486	0.522	0.678	0.711	
Older child p-value ⁴		0.890	0.578	0.617	0.901	
Marital Status p-value ⁵				0.000	0.000	0.000
School/Parent p-value ⁶						0.000

Outcome variable in all specifications is 'Separated', clustered on the individual member. Standard Errors in parentheses.

Models include (but do not display) controls for length of permanent service, protected service, MSBS Retention Benefit eligibility, wage system in use, age when hired, and competency stream. See Table 22 for control-specific parameter estimates.

Average age difference between the eldest and youngest child (in multi-child families) is 4.13 years.

¹ Represents the p-value for the F-Test that the parameter estimates are equal for kindergarten and primary school-aged children.

² Represents the p-value for the F-Test that the parameter estimates are equal for toddler and primary school-aged children.

³ Represents the p-value for the F-Test that the parameter estimates are equal for junior secondary school and senior secondary school-aged children.

⁴ Represents the p-value for the F-Test that the parameter estimates are equal for senior secondary school and finished school-aged children.

⁵ Represents the p-value for the F-Test that the parameter estimates are equal for partnered and formerly partnered.

⁶ Represents the p-value for the F-Test that the parameter estimates are equal for parent and child has started school

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$



The results of testing on Model 2 through Model 5 thus informed testing of Equation 1. Once the (eldest) child commences school, the propensity to separate increases by between 1.4pp and 2.3pp (Table 5, column 6).⁵⁸ The effects of family size (no children, single child or multiple children) and marital status remained consistent with my earlier findings.⁵⁹

Figure 5 displays the relative effect across the various covariates for Equation 1. The whiskers at each of the bars in Figure 5 denote the respective 95% confidence interval. The relatively large bands associated with some of the variables of interest highlight the comparatively large variance relative to sample size. Despite the wide confidence intervals, partnered members clearly separate at a reduced rate than single (and formerly partnered) members; and parents with younger children are less likely than members not observed to have children. Additionally, Figure 6 displays the relative effect of the various Equation 1 controls highlighting their impact and therefore importance of being included.

In sum, my results found that having children and/or being in a recognized relationship appear to have a stabilizing effect on members' retention. Notwithstanding, parents, while still less likely to separate than their non-parent counterparts, separate at an increased rate after their eldest child commences schooling, and/or when their family consists of a single child.⁶⁰

⁵⁸ The F-Test on whether the effect of being a parent (-2.1pp) is equal to the effect of the child starting school (1.4pp) found statically significant evidence to the contrary. Therefore, the increased probability of separation after the eldest starts formal schooling does not negate the stabilizing effect of being a parent.

⁵⁹ The alternate models testing children's ages (Table 16 and Table 17) suggested that members were moderately less likely to separate once the youngest child has commenced schooling (potentially as a result of age differentials in multiple-child families). The alternate models also indicated a reduced propensity to separate when either child is in the final two years of secondary school. When the youngest child finished secondary schooling the separation risk decreased further, but when the eldest child finished schooling, the propensity to separate increased significantly.

⁶⁰ For transparency Appendix D, Section B reproduces Table 3 (see Table 20), Table 4 (see Table 21), and Table 5 (see Table 22) with the various effects of each of the control variables displayed.



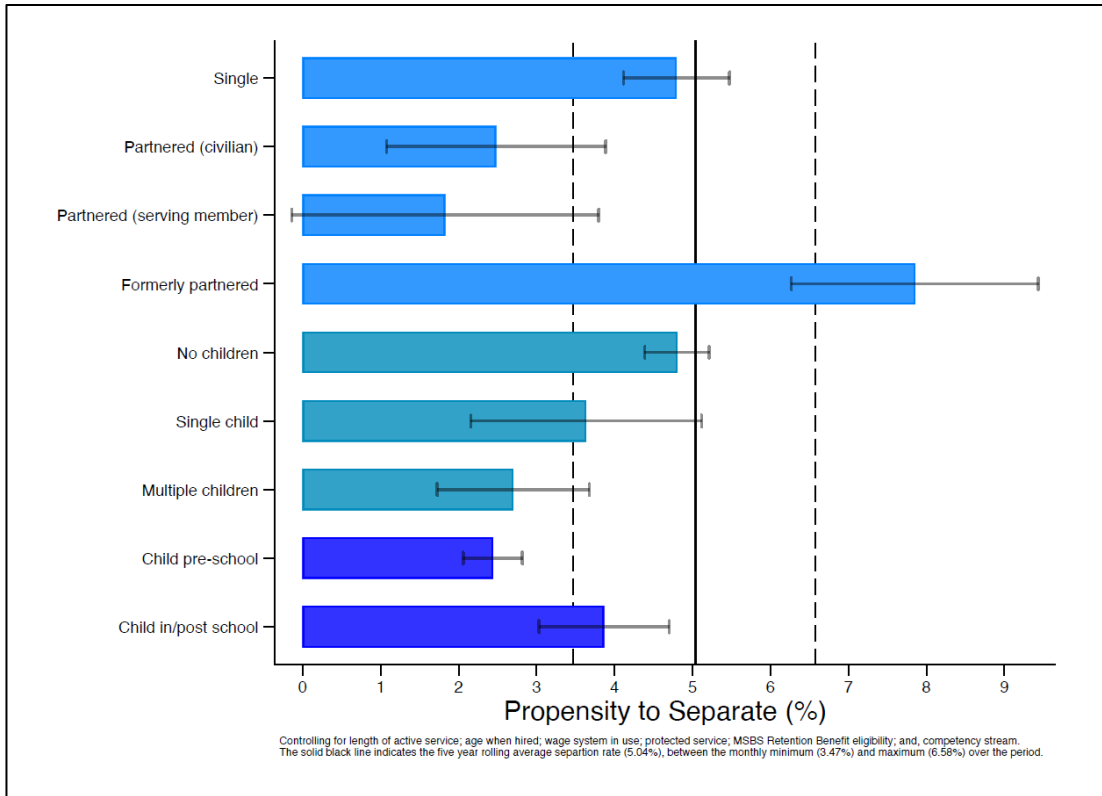


Figure 5. Relative Effects of Family Composition and Structure on Separation Behaviors



Figure 6. Relative Effects within Control Variables on Separation Rate (Equation 1)

B. RE-ENTRY BEHAVIORS AND FAMILY (RESEARCH QUESTION 2)

Research Question 2 examines the degree to which having children, and the ages of those children, are associated with successful re-entry of OA members into the permanent Service. I employed a dataset covering all OA members who separated from the permanent element (between 01 January 2005 and 31 December 2019), and ran a



series of LPM models that included controls for members' competency stream, their age when they first separated from Air Force, and their length of time out.⁶¹

My first analysis estimated the likelihood of re-entry based on parental status (independent of child's age). Holding all other factors equal, results indicated that parents were 0.6pp more likely to re-enter the PAF than members who separated without having any children, which represents a doubling of the chance of re-entry (see Table 6, column 1). I next added covariates for children's ages (grouped via school-aged milestones) to my initial model, focused on the eldest child.⁶² As detailed in Table 6, column 2 through column 4, there was no significant relationship between the various child age categories, and re-entry behaviors of ex-PAF OA members.⁶³

Finally, I focused my investigation on the effect of a person's gender on successful re-entry to the PAF. Results indicated that, holding all other factors constant, females who exited the permanent Service with no children were 0.8pp less likely to gain re-entry than their male no-parent peers (see Table 6, column 5).⁶⁴ Practically speaking, the gender results imply that females who exited the military with no children have no discernible prospect of re-entry.⁶⁵

In summary, my investigation of the re-entry characteristics of ex-PAF OA members indicated that there is a moderately statistically-significant relationship between re-entry behaviors and parental status, but I found no evidence to suggest that the ages of children have any effect. Personnel who exited the military as parents (or that I know

⁶¹ Data on members, after they had surpassed the ADF's retirement age (60 years of age) was excluded.

⁶² Alternate models were tested replacing the child age variables with youngest child data, and analyzing both youngest and eldest child simultaneously (see Appendix E, Section A, Table 24 and Table 25).

⁶³ Alternate models testing the youngest child's ages (Table 24), and both youngest and eldest children's ages (Table 25) supported the initial findings. There was moderate evidence to suggest an increase in chance of re-entry when the eldest child commences schooling, but the eldest child effect was offset by an equally diminished chance once the youngest child had commenced schooling.

⁶⁴ Findings testing for differences between mothers and non-mothers (females without children and males (parents or not) were inconclusive.

⁶⁵ A total of 85 females separated from the PAF during the observation period, and fewer than five re-entered.



become parents since separating) are almost twice as likely to re-enter than personnel who exited the military with no children. There is weak evidence to suggest that should a female OA member exit the PAF and have no children when they separate, their probability of re-entry is negligible.⁶⁶

Table 6. Relationship between Re-entry, Parental Status, and (Eldest) Child's Age

	(1)	(2)	(3) <i>Equation iv</i>	(4) <i>Equation v</i>	(5) Equation 2
Parent	0.006** (0.002)	0.003 (0.003)	0.002 (0.003)	0.006* (0.002)	0.005* (0.002)
Infant (<18 months)					
Toddler (1.5–4.5 yo)		-0.000 (0.010)	-0.000 (0.010)		
Kindergarten (4.5–5.5 yo)		0.019 (0.016)	0.020 (0.016)		
Primary School (5.5–12.5yo)		0.005 (0.010)	0.005 (0.010)		
Jnr Secondary School (12.5–15.5yo)		0.008 (0.010)	0.008 (0.010)		
Snr Secondary School (15.5–19yo)		0.013 (0.011)	0.014 (0.011)		
Finished School (>19 yo)		0.002 (0.010)	0.003 (0.010)		
Child has started school				0.007 (0.005)	
Female			-0.008* (0.004)	-0.008* (0.004)	-0.008* (0.004)
Mother			0.008 (0.009)	0.009 (0.009)	0.009 (0.009)
Constant	0.006*** (0.001)	0.004 (0.010)	0.004 (0.010)	0.000 (0.005)	0.007*** (0.002)
Observations	10154	10154	10154	10154	10154
R-Squared	0.016	0.017	0.017	0.016	0.016
Age p-value ¹		0.202	0.210		

Outcome variable in all specifications is 'Re-entered', clustered on the individual member. Standard Errors in parentheses. Models include (but do not display) controls for length of time out, age when separated, and competency stream. See Table 29 for control specific parameter estimates.

Average age difference between the eldest and youngest child (in multi-child families) is 4.23 years.

¹ Represents the p-value for the F-Test that the parameter estimates are equal for kindergarten and finished school.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

⁶⁶ Additional models investigated non-family related effects on re-entry. Holding all other factors constant, members in the FJP stream and ATC streams were found to be 6.25 times and 2.5 times, respectively, more likely to re-enter, than personnel in the other competency streams. Members are six times more likely to re-enter in the first five years after separation and four times more likely to re-enter 5 to 10 years after separation, than at 10+ years post separating. For transparency Appendix E, Section B reproduces Table 6 (see Table 29), with the various effects of each of the control variables displayed.



V. DISCUSSION, RECOMMENDATIONS, AND CONCLUSION

A. DISCUSSION

My research adds to the vast body of literature examining relationships between career, workplace, and the family. My primary findings are two-fold: a) members in a recognized domestic relationship are substantially less likely to separate than their single (and formerly partnered) peers; and b) members who have at least one child are less likely to separate than those members who do not become parents; if those members do separate as parents, they are almost twice as likely to re-enter.

As detailed at Chapter I, Section C, a member's ability to separate or re-enter depends on both opportunity and motivation to do so, and my research attempts to identify relationships between family and that motivation and/or opportunity. However, my research is unable to measure neither motivation nor opportunity, rather it observes the actual separation or re-entry event. Regarding re-entry, I am only able to observe those members who successfully re-entered the permanent forces, therefore excluding other personnel who may have applied for a second PAF career, but were not accepted by Air Force.

Regarding opportunity, opportunity to separate or re-enter can be both internal to the Service (for example, protected service restricts a member's ability to separate) or external (i.e., the existence of a job in the civilian sector). Clearly, my dataset is absent of such external factors such as the economy and unemployment rates. Notwithstanding, and despite recessive events in other economies across the world, Australia has experienced economic prosperity (with steady, relatively low unemployment) since 1993 and for the duration of the observation period (Salt, 2018). Therefore, for the purposes of my research, I assume that external influences related specifically to the economy and unemployment have remained stable for the duration of the observation (and thus are consistent irrespective of time). There are however other limitations to my discoveries and their interpretations.



1. Marital Status and Retention

As previously detailed (see Chapter III, Section B), my data does not track how an individual's marital status varies with time. The fixed nature of marital status variable limited the complexity, but unfortunately also the strength of my findings from Research Question 1. The inability to observe ex-PAF members after their resignation from the permanent Service, exacerbates the marital status data restraint, and entirely precludes any ability to analyze association between marital state and re-entry behaviors (Research Question 2).

The restrictions on the findings with respect to question 1 are not inconsequential. Clearly, all people are first single before they enter any form of recognized relationship, albeit, they are not necessarily single when they first enter the PAF. In my data, however, I am unable see where currently partnered members may have once been single. The same is true for formerly partnered members who I am also unable to observe at the times when they were married. Therefore, my models do not compare like for like at the specific time intervals. Rather, at best I am able to compare 'the type of person who has their relationship recognized while in the service' with the other marital states (as an example).

Presenting the sample's length of service distribution by marital status, Figure 7 provides for a visual representation of why the inability to compare like for like at specific length of service is an issue. As is displayed in Panel A, single members' lengths of service are substantially skewed to the left when compared with the other two marital states. Panel B highlights a sizeable difference in lengths of service between single members who separated and those still in. When considered alongside Panel A, Panel B highlights that, by approximately the 20 years of service point, single personnel have either exited the service or become partnered. A small bump at approximately 30 years shows that close to, if not all, single members who make it to 30 years of service separate. The differences in the distributions combined with the inability to compare with when partnered and formerly partnered personnel were single has the potential to inflate the effect of being single on separation propensity. The potential overinflation issue is



less pronounced for partnered and formerly partnered personnel given the similar distributions shown in Panel A, Panel C, and Panel D.

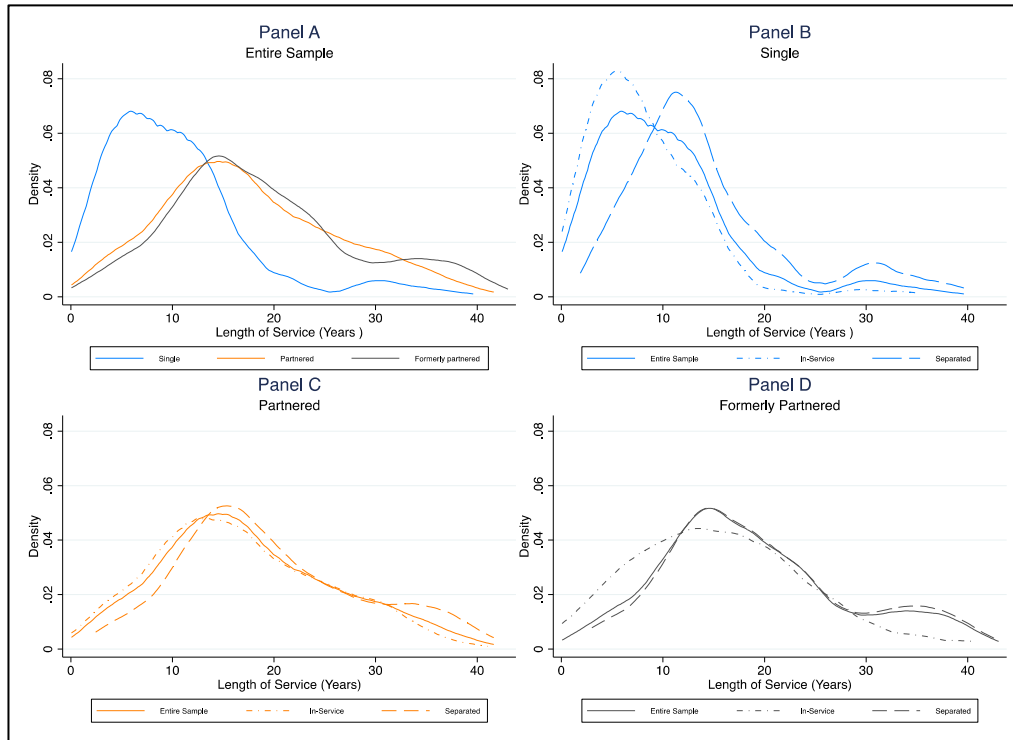


Figure 7. Distribution of Length of Service by Marital Status

Irrespective of the potential for overinflation, however, the mean length of permanent service for members who separated varied substantially between single members and those who would ever be partnered, thus giving a degree of credibility to my findings. The associations between marital status and retention behaviors cannot denote causality. Potential exists that single members get out at a greater rate than those who enter a recognized relationship while in the service because they are the type of people who were not desirous of a longer service career. Alternatively, partnered members may remain in service for longer periods due family supportive conditions within the ADF. Again, such an outcome does not imply that single members get out because they do not have access to such CoS. Rather, it suggests, potentially, that the family-supportive conditions are somewhat effective.



2. Children, Family, and Workforce Behaviors Status and Retention

Existing literature implies that presence of children, and their number have a *stabilizing effect* on marriage and the workplace behaviors of parents. My research supports such a proposal. Despite an increased probability of separation once the eldest child started school, families of two or more children remained less likely to separate than those members who were never observed to become parents. It cannot be determined whether those who separated became parents after their PAF career ended. Ideally, future research into such effects as children on workforce behaviors will include an ability to continue observations after the outcome has occurred.

The selection of the eldest child as the determinant for any school-based decisions was necessary to reduce model complexity and allow for interpretable results, but it required assumption that parents would use the eldest child's age as a basis for child-school-based decisions, and restricted my findings. In any case, similar effects were found when youngest, and both youngest and eldest child were considered. I, however, consider the inclusion of the single-child family co-variate as crucial, as it isolates parents whose decisions are potentially influenced by a youngest child's schooling as opposed to those concentrating on the one child only. As with personnel who became parents after separation, those who separated with one child only may have had additional children after separation, thus biasing my findings.

Similar to marital status, the positive effect of parenthood on retention may be explained to a certain degree by *survivor bias*. Because all people first have no children before they become parents, potential exists that members enter the service having no children and then exit before becoming parents. Figure 8 shows the skewed length of service distribution for members not observed to become parents highlighting the potential for this issue. Unlike with marital status, however, I am able to observe when changes in parental status (and increases in family size) occur. Holding all other factors constant (e.g., for equal length of service), those members who are observed to become parents are 3.1pp less likely to separate than those not observed to, even before becoming a parent. Therefore, the bias is less of a concern.



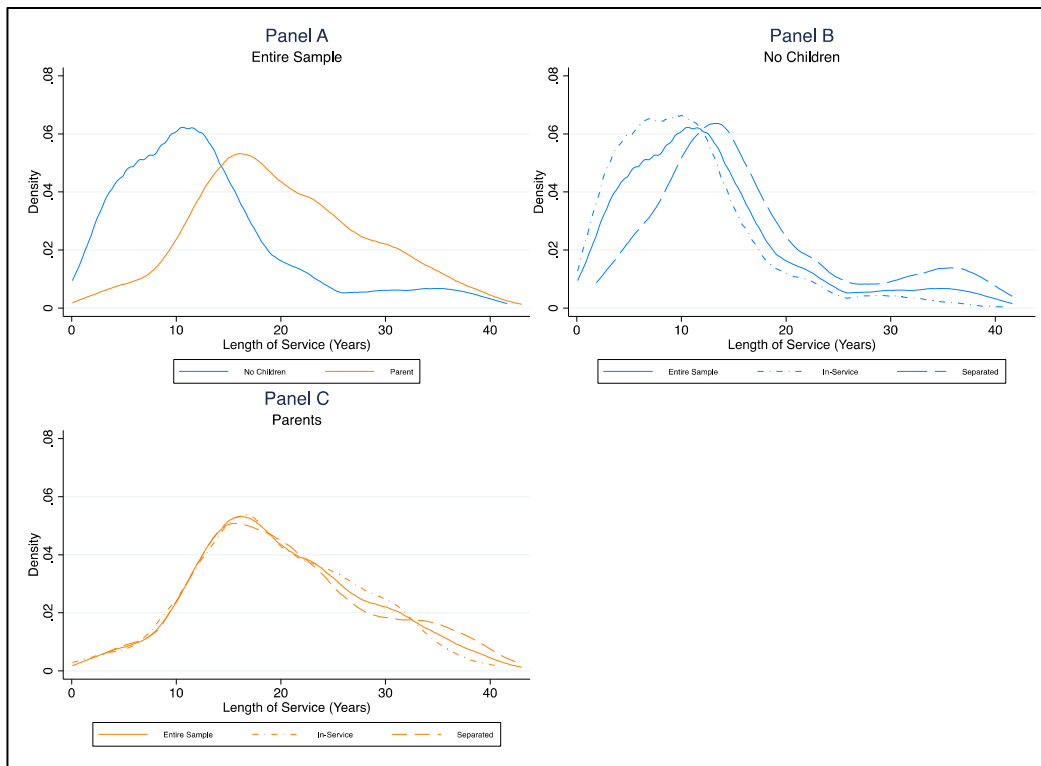


Figure 8. Distribution of Length of Service by Parental Status

The fact, however, that parents do separate at an increased rate once their eldest child reaches school age may be explained by the anecdotal view that members seek to exit the PAF to provide for locational stability for their families (removing the risk of relocation). Notwithstanding the limitations to my ability to analyze relocations data (see Appendix C, Section C), I undertook supplementary research to investigate the relationship between separation behaviors as the total number of relocations increased (see Table 18 in Appendix D, Section A). The additional (relocations) analysis found that as number of relocations increased, the probability of separation decreased for both parents and members who were not observed to have children.⁶⁷ There is no evidence to support that members get out due to being relocated. Therefore, if parents exit the Service after their children commence school to provide for locational stability, doing so is based

⁶⁷ My supplementary research into relocations found that at the mean number of relocations per member (2.10), there is a 1.12pp increase in the likelihood of separation, per relocation for parents when compared to non-parents. Overall relocations, however, were negatively correlated with separation for all members (independent of parental status).

on threat of relocation or instability, not an actual relocation (and therefore instability) itself.

As previously mentioned, my results do not imply casualty, rather they highlight the relationships between specific circumstances or events. Notably, those members who become parents both exit at a reduced rate than their non-parent colleagues, but they also re-enter at a heightened probability. Both of these findings would suggest greater organizational commitment on the part of parents vs. non-parents. While evidence of any connection between schooling and re-entry was inconclusive (likely due to the small sample size), were child's schooling to be a determinant in a member's exit from the PAF, it does not appear to be an issue precluding that member's return. Members who do return are almost twice as likely (1.8 times) to do so within the first five years of separation than at 5–10 years out timeframe (see Appendix E, Section A, Table 27). At 10 years out, the chance of re-entry is close to zero. Combined, these findings suggest potential for a “the grass isn't greener, the grass is a different shade of green” effect.

Unfortunately, the inability to continue to observe personnel after their departure precluded a like-for-like analysis such that I cannot compare ex-PAF members who may have become parents after their separation with those who did and re-entered, further limiting the utility of my findings.

B. RECOMMENDATIONS FOR THE AUSTRALIAN DEFENCE FORCE

My findings indicate relationships between family and workforce behaviors, but the strength and interpretability of my results are diminished by the aforementioned limitations. Further research should be undertaken to ensure the robustness of relationships reported above so that policy can be adapted and established. Notwithstanding the current limitations, I propose the following recommendations for the RAAF, the wider ADF, and further research.

1. Track Marital Status Changes with Time

Clearly, the greatest limitation to my research, and to enabling a thorough understanding of my results, was the inability to see changes to marital status (and



dependent status) with time. I recommend the ADF considers future HRM systems and data storage systems that include the ability to store, track, and readily recall all time-varying demographic data. Clear mandated rules as to how members report their marital status should be considered also.

2. Track Reservists' Dependent, Marital, and Parental Status

An obvious limitation to any research involving terminal events such as military attrition is the inability to observe subjects following the termination event. Within the ADF, however, a majority of members on separation do not leave the military altogether (and become civilians). Rather, the vast majority of personnel transfer to the Reserve Forces in some capacity, at least for a period of time after transfer from the permanent ADF (refer Defence Regulation 2016 [Commonwealth of Australia, 2016]). Reserve members are placed in a Service Category that varies between enduring regular service, short-notice call for duty, non-enduring/irregular service, or no service unless called out (Australia. Department of Defence, 2021b). As such, Defence (or Air Force independently) may wish to consider whether there is benefit to mandating the requirement for regular (annual) review and update of personal and demographic information by all members irrespective of Service Category.

3. Further Investigate Single Members and Separation

While causality between marital status and separation propensity cannot be established, 'on the back of a beer mat' math showed that while single members' average LoS at separation was calculated as 14.28 years, partnered and formerly partnered members served for 19.59 years and 19.53 years respectively (until their separation). In the OA context, five years represents a substantial difference, and single members' mean LoS at separation falls dead center in the *dynamic region* (see Chapter I, Section B, Sub-Section 3b) where the aviation personnel capability is supervised and sustained. It is the 10–15–20 years of service zone that is vital for the OA RTS strategy, where productivity and return on investment is optimized. Therefore, it is in the Air Force's best interests to enquire further into whether single members do in fact exit at a greater rate than their



partnered counterparts, as well as investigate strategies that could extend their service slightly.

4. Further Research

My research specifically and intentionally targets the RAAF's OA workforce, but doing so limited some aspects of my findings. Noting the relatively small female participation within OA, I believe the sample size to have been insufficient to identify any differences that exist between the genders with respect to the relationship between marital/parental status and separation and re-entry behaviors. Existing literature implies that mothers are more susceptible to family influences on their workplace behaviors; therefore, further research that includes larger representations of female subjects is important.

Separate to gender effects, only 135 ex-PAF members re-entered over the 15-year observation period also limiting the ability to detect statistically significant evidence of the existence of specific effects related to re-entry. Therefore, to address gender differences as well as properly investigate re-entry characteristics, further, expanded, and broader research is required.

Specific to the aviation community, significant insight could be gained by extending my study to probe the USN, U.S. Air Force, United Kingdom's Royal Air Force, and potentially other anglophone military aviation populations. Potential exists that cultural differences may prejudice findings. By investigating similar western military employment categories, however, the sample size is able to be increased, thus refining the accuracy and credibility of my findings. Furthermore, an understanding of variations in conditions and other HRM policies between allies could inform future workforce strategies across coalition partners.

Separately, and internal to the ADF, increasing the target population beyond OA, within the RAAF, and more broadly to include the other two services (both individually and collectively) will enable refinement of ADF-wide policy and conditions.



Finally, further broader research, (not just directed at the ADF and/or military aviation) is highly desirable. Existing literature is highly focused and needs to be expanded to consider family structure and composition more broadly. An understanding of worker performance, morale, and retention characteristics across different marital states, parental states, and number of dependent children over the entirety of their childhood would provide substantial benefit to optimizing HRM policies and practices.

C. CONCLUSION

My study shows that there exists a clear relationship between family structure and composition and the workforce separation, retention, and re-entry behaviors within the RAAF's OA workforce. While data limitations restrict the strength and full utility of my findings, there is clearly a correlation between retention and marital status. Those members who are in a recognized relationship are less likely to separate than members who are single or formerly in a recognized relationship.

Corroborating existing research, children appear to have a *stabilizing effect* on careers. Specifically for RAAF OA members, propensity to separate is reduced, and chances of successful re-entry (after a period of separation) is improved should that person become a parent. Parents do appear to separate at an increased rate once their eldest child starts school, but holding all other factors equal, families of more than two children, where the member is in a recognized relationship, are less likely to separate than members without children (irrespective of marital status). Unsurprisingly, the stabilizing effect of children is negated if the member is a single parent.



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APPENDIX A: ADDITIONAL BACKGROUND INFORMATION

A. WHY AIR FORCE OFFICER AVIATION

Within the PAF, management of our AFS allocation and the generation and administration of our human capital can be organized, analyzed, and/or described using various broad groupings based on the purpose of the investigation (for example, enlisted and officer, undertraining workforce and trained force, or technical and administrative).

Compared with the RAAF's support and enabling workforces (i.e., administration, logistics, etc.) generating and sustaining a capable OA workforce is time intensive, dangerous, and highly complex. Therefore, recognizing these challenges and including additional complexities involving attraction, retention, and ab initio training, my research and analysis is focused on OA workforce.

I briefly discussed the *under-training* element of the OA workforce (ab initio OACs), but my thesis is only concerned with the trained force element of OA as this is the workforce responsible for the application of air power and the element of OA that directly contributes to the RTS framework. An OAC who separates or does not progress to the trained force is likely a training failure or a termination due not in the Service's interest.

B. ADF FAMILY BENEFITS

Various CoS are only applicable to ADF members who have dependents (spouse, partner, or children), but several that are particularly relevant in the context of my thesis.

(1) Maternity Leave

Aimed to recognize the challenges associated with the late stages of pregnancy and childbirth and provide for initial care of the child, expecting mothers are entitled to 52 weeks of maternity leave. Members are entitled to their full salary for the first 14 weeks, although this may be taken at half pay and extended to 28 weeks. The remaining unfunded maternity leave may be taken by the member as any combination of recreational leave, long-service leave, parental leave, or leave without pay (Australia.



Department of Defence, 2021d). The maternity leave entitlement for ADF members has existed since 07 January 1975 (Reghenzani, 2015).

(2) Parental Leave

To assist members with caring for and engaging with their child after it joins the family, the ADF provides for up to 66 weeks of *parental leave*. ADF Members not eligible for maternity leave (for example fathers or members adopting a child) are eligible for 28 days of paid parental leave. After having taken into account any period of maternity leave or paid parental leave, the remaining balance of the total 66 week entitlement is unpaid (Australia. Department of Defence, 2021d). Parental leave has only been available since 14 November 2019 (Lloyd, 2019).

(3) Carer's Leave

All Australian full-time workers accrue 20 working days (four weeks) of recreation leave annually. In addition to their own recreation leave, however, and the indefinite sick leave that all ADF members are eligible for, members with dependents (spouse, partners, or children) are entitled to an additional 10 working days (2 weeks) of carer's leave per annum. Carer's leave is available for when a member's dependent is sick or injured or affected by an unexpected emergency (Australia. Department of Defence, 2021d). While carer's leave is available to members without dependents, if a close relative phases similar conditions, this would normally only occur in extenuating circumstances. Carer's leave is most commonly expended by those members with dependents.

(4) ADF Family Health Program

The ADF Family Health Program allows recognized dependents of ADF members to claim a benefit for general and specialist health services. The ADF Family Health Program is not designed to replace private health insurance, but subject to family construct, the medical situation and specific health service, the benefit may be substantial (Australia. Department of Defence, 2021a).



C. SCHOOL IN THE AUSTRALIAN CONTEXT

Notwithstanding that schooling is similar across Australia (Commonwealth of Australia, 2021), specific variance by state is as follows:

Australian Capital Territory. Kindergarten is not compulsory in the Australian Capital Territory (ACT) and is accessible to children who turn five prior to 01 May of the year of enrolment. School is compulsory for all children aged between six and 17 years of age, and Year 1 commences when the child is between the age of five years and seven months and six years of age. Secondary School commences at Year 7 (Australia. ACT Government, 2021; School Info Australia, 2021). For further information regarding schooling in the ACT see the ACT Schooling website (<https://www.education.act.gov.au/schooling>)

New South Wales. Kindergarten is not compulsory in the New South Wales (NSW) and is accessible to children from who turn five prior to 01 August of the year of enrolment. School is compulsory for all children aged between six and 17 years of age, and Year 1 commences between the age of five years and five months and six years of age. Secondary School commences at Year 7 (New South Wales. Education Standards Authority, 2021; School Info Australia, 2021). For further information regarding schooling in NSW see the Schooling in NSW website (<https://educationstandards.nsw.edu.au/wps/portal/nesa/parents/parent-guide>)

Northern Territory. Kindergarten is not compulsory in the Northern Territory (NT) and is accessible to children from age four. School is compulsory for all children aged between six and Year 10, but the child cannot leave school before turning 17 years of age. Year 1 commences when the child is between the age of five years and seven months and six years of age. Secondary School commences at Year 7 (Australia. Northern Territory Government, 2015; School Info Australia, 2021). For further information regarding schooling in the NT, see the NT Education and Learning website: (<https://nt.gov.au/learning>)



Queensland. In Queensland, Kindergarten is referred to as Preparatory (Prep) and is compulsory. Prep is accessible to children who turn five years of age by 30 June in the year of enrolment. School is compulsory for all children until completion of Year 10 (Junior Secondary School) and Year 1 commences between five and a half and six years of age. Secondary School commences at Year 8. (Queensland. Department of Education, 2021; School Info Australia, 2021). For further information regarding schooling in Queensland see the Queensland Department of Education website:

(<https://qed.qld.gov.au>)

South Australia. In South Australia (SA), Kindergarten is referred to as Preschool and is not compulsory. Prep is accessible to children who turn four years of age by 01 May in the year of enrolment. School is compulsory between six and 16 years of age and Year 1 commences between five years and seven months and six years of age. Secondary School commences at Year 7 (Australia. Government of South Australia, 2021; School Info Australia, 2021). For further information regarding schooling in the SA, see the SA Education System website:

(<https://www.sa.gov.au/topics/education-and-learning/general-information/sa-education-system>)

Tasmania. In Tasmania, Kindergarten is not compulsory and is accessible to children who are five years of age. School is compulsory for all children from age six until completion of Year 10 (Junior Secondary School), and Year 1 commences the day the child turns six. Secondary School commences at Year 8 (School Info Australia, 2021; Tasmania. Department of Education, 2021). For further information regarding schooling in Tasmania, see the Study Tasmania website:

(<https://study.tas.gov.au/study/government-schools>)

Victoria. In Victoria, Kindergarten is referred to as Prep. Prep is accessible to children who turn four years of age by 01 May in the year of enrolment. School is compulsory between six and 16 years of age, and Year 1 commences when the child is between the age of five and seven months and six years of age. Secondary School commences at Year 7 (School Info Australia, 2021; Victoria. Department of Education,



2021). For further information regarding schooling in Victoria, see the Victorian Government Education website (<https://www.vic.gov.au/types-schools>).

Western Australia. In Western Australia (WA), Kindergarten is referred to as Pre-Primary. Pre-Primary is compulsory accessible to children who turn five years of age by 30 June in the year of enrolment. School is compulsory between five and a half and 16 years of age, and Year 1 commences when the child is between the age of five and a half and six years of age. Secondary School commences at Year 7 (School Info Australia, 2021; Western Australia. Department of Education, 2021). For further information regarding schooling in WA, see the Education in WA website: (<https://study.tas.gov.au/study/government-schools>).

D. FEMALE PARTICIPATION IN AIR FORCE

In the RAAF context, and in a bid to enable better supply access to the entirety of the Australian population, approximately 50% of whom are female, the Air Force instigated a program aimed at increasing female participation in the 2010/2011 timeframe (G. Harland, personal communication, November 17, 2021). At the time, the Air Force retained a constant 17% female representation across the entire workforce, proportionately highly under-represented in technical and non-medical employment categories (RAAF. Personnel Branch - Air Force, 2011a). Thus, Project WINTER (Women in Non-Traditional Employment Roles) was established aimed at increasing the number of females in aviation technical and flying roles (Royal Australian Air Force, 2017b). Project WINTER included such strategies as improving access to flexible-employment programs, support to new parents, and women-specific mentorship and development programs (RAAF. Directorate of Workforce Diversity, 2011; RAAF. Personnel Branch - Air Force, 2011b). Project WINTER has subsequently ceased, replaced by an ADF-wide commitment and includes a number of strategies aimed at supporting female members and mothers. Led by the Air Force at 24.6% female representation, as of 30 June 2020, women comprised 19.2% of the total ADF uniformed permanent workforce, up from 15.3% in 2015. (Australia. Department of Defence, 2020c).



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APPENDIX B: AIR FORCE OFFICER AVIATION HISTORY AND OVERVIEW

There are various ways through which a member may enter the trained force element of OA. Most commonly, OA candidates are selected via a common battery of tests, then undertake elements of communal and focused training, becoming a trained force OA member on the attainment of their primary qualification onto an aviation weapon system.⁶⁸ Such candidates may be ab initio recruits to the military; trained force personnel from other non-OA trades transferring from within the Air Force, Navy, or Army; or promoting from the enlisted ranks (Australia. Department of Defence, 2017b).

New appointees may enter as a Direct Entry Officer (DEO) and undertake initial officer training over a 17-week period, or they may attend the Australian Defence Force Academy (ADFA) where initial officer training is undertaken concurrently with a three-year undergraduate degree (Australia. Department of Defence, 2021e). Alternative avenues exist for experienced Navy or Army aviation personnel to transfer directly into OA; or, enabled by the *Overseas Lateral Recruitment Scheme* (Australia. Defence Community Organisation, 2016), foreign military personnel may be appointed directly into the trained force on the basis of the direct portability of their military aviation experience and skills. Finally, commonly ex-PAF personnel may seek re-entry to the permanent element after having separated previously (Royal Australian Air Force, 2021). Broadly understanding the different modes of entry into OA is crucial as a member's length of service and experience profile can vary substantially.

Effective 03 May 2018, the Air Force implemented the OA HRM reform to remediate long-standing aviation workforce health issues in supply, training, and employment (Commonwealth of Australia, 2021a; RAAF. Directorate of Workforce Aviation, 2017). The OA HRM reform consisted of three main, intrinsically linked and inter-dependent elements:

⁶⁸ The primary qualification is an enabling competency, also referred to as a *Category D*. A Category D endorsement is awarded on completion of aviation platform or system operational conversion course (OPCON).



1. Migration to a single, flexible OA employment category
2. Introduction of a dedicated OA HRM strategy
3. Evolution of OA-specific CoS and Officer Aviation Remuneration Structure (OARS)

A. THE AIR FORCE OFFICER AVIATION EMPLOYMENT FRAMEWORK

Replacing the historical, but stove-piped, aircrew pilot and navigator, air defence (ground-controlled intercept and airborne early warning and control) officers, airborne electronics (airborne sensor specialist) officers, and the formerly independent air traffic controller employment categories, the OA reform established all aviation trades under a single umbrella (RAAF. Directorate of Workforce Aviation, 2017). The entire OA workforce is thus managed as a single family. As depicted in Figure 9, however, to allow for maximum agility in supply, training and employment, the framework is segmented into *employment periods* and reinforced by *progression pathways* and a number of *competency streams* (Royal Australian Air Force, 2021).

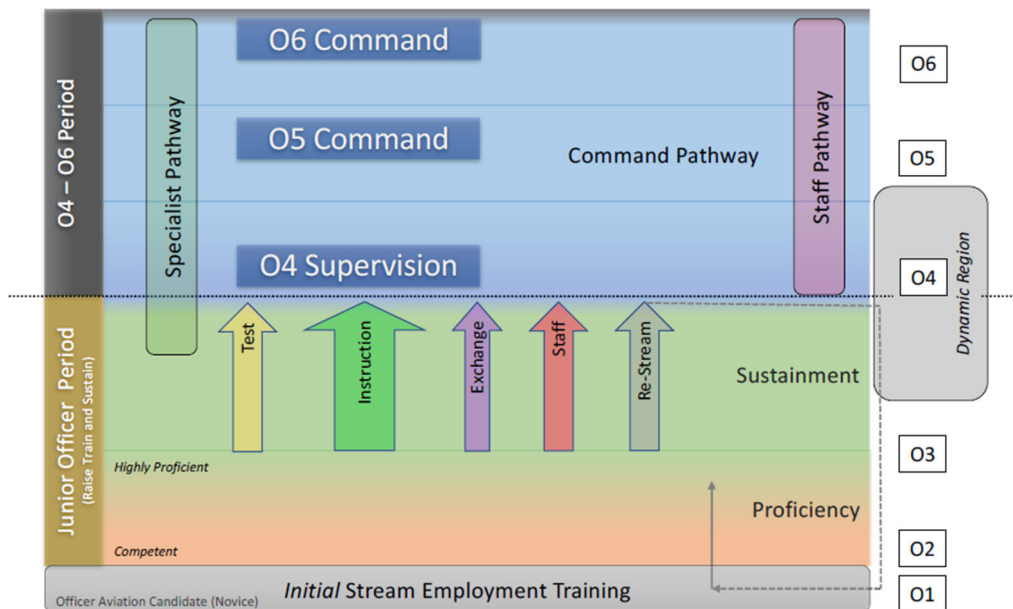


Figure 9. The Officer Aviation Employment Framework

1. Employment Periods

The OA framework consists of distinct employment periods underpinning the OA RTS capability generation framework. On initial entry into the OA family and promotion to O1 rank (Second Lieutenant equivalent), unqualified OA candidates undertake *Initial Stream Employment Training*, which ceases on completion of an *Operational Conversion* course. Operational conversion courses deliver the candidates to the operational squadrons as competent operators on a specific aircraft type or weapon system. Thus entering the trained force, OA members are promoted to O2 rank (First Lieutenant equivalent) and commence the *Junior Officer* employment period (Australia. Department of Defence, 2017a; Royal Australian Air Force, 2021).

The Junior Officer period is synonymous with RTS progression and consists of two important phases: the *proficiency* phase and the *sustainment* phase. During proficiency, OA members form the deployable (operational) force and their foundational technical mastery is developed, peaking when an operator attains highly proficient status on an operational platform. Based on individual preference, suitability, and service needs OA members will proceed to instruction, flight-test, staff, or overseas exchange tour or will return to stream employment training for re-streaming. Dependent on demand, and coupled with individual rate of progress, sustainment activities generally commence between three and a half and five years after an individual completes their initial Operational Conversion course. Sustainment phase also marks a transfer of focus from developing technical mastery to refining technical mastery and developing organizational mastery. On transition to the sustainment phase, aviators effectively migrate from being a consumer to being a producer of resources. OA members are also promoted to O3 rank (Captain equivalent) five years after promotion to O1, which is loosely aligned with transition into sustainment activities. Generally speaking, members can expect to spend one and a half to two tours contributing to the sustainment of Air Force's aviation capability before they seek separation or are promoted to O4 rank (Major equivalent) (Australia. Department of Defence, 2017a; Royal Australian Air Force, 2021).

Promotion to O4, O5 (Lieutenant Colonel equivalent), and O6 (Colonel equivalent) is competitive and demarcates the three important phases of the overall period



(*O4 Supervision, O5 Command, and O6 Command*). On promotion to O4, OA members commence the *O4–O6* period where OA RTS activities are supervised and commanded, boarder organizational functions are conducted, and personnel refine their organizational mastery. Generally speaking, OA members compete for a supervisory or command tour and can expect multiple staff tours at each rank level. The *O4 Supervision* phase, however, is where experienced personnel primarily oversee the safe, effective, and efficient provision of aviation capability and first refine their technical leadership abilities. The O4 supervision coupled with the preceding (O3) sustainment activities are the most important stages of the OA RTS capability generation framework.

Promotion to O7 (Brigadier General equivalent) commences the *Senior Leadership* period, and while intrinsically linked to the OA employment framework, signals where a member ceases to be an OA member per se (Australia. Department of Defence, 2017a; Royal Australian Air Force, 2021).

2. Competency Streams

The entire OA workforce is managed as a single family, but the differing training risks and complexities and diverse functions performed by OA members are accounted for using *competency streams*. Thus, the framework recognizes both the common (family) and the unique (stream), allowing the entire OA workforce to be managed flexibly as both specialized and a collective. Dependent on an individual’s point in career, the competency stream may bear substantial relevance (i.e., the foundation phase) or negligible relevance (i.e., O6 staff tours).

OA members are placed into a stream as they enter the trained force based on the competency they attained when the first converted onto an operational type (Australia. Department of Defence, 2017a; RAAF. Directorate of Workforce Aviation, 2017; Royal Australian Air Force, 2021). The competency streams are:

- Air Battle Management (ABM)
- Airborne Electronics (AEO)
- Air Mobility (AMO)



- Air Traffic Control (ATC)
- Fast Jet Pilot (FJP)
- Fixed Wing Pilot (FWP)
- Maritime Patrol and Response (MPRO)
- Weapon Systems (WSO)
- Remote Pilot (RP), a dormant stream to be activated following the RAAF's acquisition of Remotely Piloted Aerial Systems

While the OA family has, until 2018, been managed via a number of segregated employment categories for over 15 years, for the purposes of my thesis, the competency streams are backward compatible in terms of individual and workforce characteristics. Further information regarding the specifics of competency streams is available at the RAAF OA Website (<https://www.airforce.gov.au/our-people/careers/officer-aviation>)

3. Progression Pathways

The OA employment framework also includes three progression pathways. The three pathways are accessible to all streams and allow for differentiated employment and conditions dependent on Service needs as well as individual preference, skill, and experience. Akin to a vehicle (stream) travelling on different categories of road (for example freeway, service road, or neighborhood street), individuals may be on different pathways throughout their career or remain on the default pathway for the entire time they are an OA member. The three progression pathways are:

- Command (default): Development and exploitation of both organizational and technical mastery
- Specialist: Refinement and exploitation of technical mastery
- Staff: Refinement and exploitation of organizational mastery

All members enter the trained force element on the Command pathway and may apply for or be offered transfer onto an alternate pathway post sustainment activities (Australia. Department of Defence, 2017a; Royal Australian Air Force, 2021).

B. THE AIR FORCE OFFICER AVIATION HRM STRATEGY

The objective of the OA HRM Strategy is *Resource Effective Airpower*. Underpinned by the principles of productivity, mastery, and resilience, the RAAF uses a cohort regulation strategy to shape the OA workforce. In the strategic HRM context, productivity refers to optimization of the resources (for example career duration, optimization of talent, platform rate of effort, and personnel costs) to readiness ratio, whereas resilience refers to the organization's ability to withstand shock. Enabled by dynamic management, that aims to not necessarily retain all personnel, but rather influence when members separate, the cohort regulation strategy employs a stable intake logic to minimize RTS instability (Australia. Department of Defence, 2017a; Royal Australian Air Force, 2021).

C. CONDITIONS OF SERVICE (INDUSTRIAL RELATIONS)

1. Remuneration

Prior to 2006, OA members, as with all ADF officers (excluding specialist fields such as lawyers, doctors, and dentists), were remunerated via placement in the ADF Officer Common [salary] scale (OCS). The OCS saw all ADF officers paid identical salary based on promoted rank and time at that rank. Notwithstanding, ADF aircrew remuneration was supplemented with a *Qualification and Skill (Q&S)* allowance that increased biennially. The Q&S allowance became superannuable in 2003 (Australia. Department of Defence, 2007).

In 2006, the ADF replaced the OCS with the GOPS and the Q&S portion of the flying allowance was absorbed into members' salaries. At that time, pay disparity existed between the individual employment categories that would later become the OA family. Pilots and navigators retained the higher salary; air defence officers (who would later become ABMs) and air traffic controllers were placed on individually different, but



lower, salary constructs (Australia. Defence Force Remuneration Tribunal, 2007; Australia. Department of Defence, 2017a).

Effective 01 October 2009, the OARS was introduced as part of the same remuneration reform project that introduced the GOPS. The GOPS version of OARS would later become known as OARS1 as a result of evolution of the system. Previous aircrew officers who had legacy access to the biennial time-progressing higher salary remained grandfathered on that scheme. Along with ABM and air traffic control, however, all new entrants were placed on a competency-based progression logic. The competency-based system was at a significantly lower salary rate than the legacy aircrew salary, which had incorporated the Q&S loading. Thus, significant disparities existed both within and between the independent (stove-piped) employment categories that formed the OA family (Australia. Defence Force Remuneration Tribunal, 2009).

Effective January 2013, with an aim to regulate workforce flow and distribution, the OARS evolved to include a seniority-based allowance for specified Officer Aviation members (OARS2). The allowance is an annual completion payment of \$AU25,000 to eligible members, calculated on 31 December annually, with payment of a full year of effective service. Currently, for the first four years at O4 and O5 rank, pilot aircrew (now members in the FJP or FWP streams) are eligible for the allowance. Inherent flexibility, however, means that the OARS allowance can be expanded to the other streams, and on differing time scales if required (Australia. Defence Force Remuneration Tribunal, 2012; Australia. Department of Defence, 2017a; Harrison & Bevis, 2013).

Coincident with the implementation of the OA HRM reform, the OARS saw its third evolution commence on 03 May 2018 with the implementation of the OAPS. Noting the pay disparity within OARS1, significant vulnerabilities emerged that, if left untreated, would increase separation behaviors within OA and starve the sustainment and supervision phases. Fortuitously, as a consequence of the fact that those members who were most exposed remained under protected service (described below), the risk would not be realized until calendar year 2020. Further, experience with OARS1 highlighted an unintended detractor that found the system to undermine attraction to the more complex and high training risk streams. As a result, the Air Force sought a new wage scale that



supported the OA employment framework, the OA HRM strategy, and their underpinning principles. Thus, the OAPS (OARS3) differentiates pay by stream and pathway, attracting members to the higher risk, higher complexity streams, and provides for retention of OA members whose experience profiles and skills are most susceptible to external market forces (Asbury et al., 2018; Australia. Defence Force Remuneration Tribunal, 2018; Australia. Department of Defence, 2017a).

2. Covered Service

The ADF applies a *Service Obligation* in circumstances that warrant certainty of service, to secure a reasonable return on investment and/or to ensure workforce stability for capability purposes (Australia. Department of Defence, 2017b; RAAF. Directorate of Workforce Aviation, 2019). Most commonly, Service Obligations are applied on initial entry into the ADF, or when a member transfers to an alternate employment category (Royal Australian Air Force, 2018). In the OA context, and prior to the OA HRM reform, the use of mid-career Service Obligations based on *high value training* and/or *high value experience* were prevalent. Further, pre-OA HRM reform, Service Obligations were applied to members based on intake type (DEO or ADFA) and the member's future intended employment category. For the duration of a Service Obligation, members are considered to be under *protected service*, meaning they are unable to separate except in exceptional circumstances (Australia. Department of Defence, 2017b; RAAF. Director General Personnel - Air Force, 2018; Royal Australian Air Force, 2018).

The OA HRM reform replaced the application of disparate Service Obligations with a common nine-year obligation applied coincident with the commencement of Operational Conversion training. The use of mid-career Service Obligation also ceased, replaced by a much more flexible and pragmatic system. Thus, the OA protection framework (Covered Service) is consistent across the entire OA family and supportive of the OA HRM strategy (RAAF. Directorate of Workforce Aviation, 2019; Royal Australian Air Force, 2021).

Unfortunately, OA's Covered Service regime was unable to be applied retrospectively, and therefore only applies to new entrants (RAAF. Directorate of



Workforce Aviation, 2019). As a result, over the past 15 years, nuanced forms of Service Obligations have been applied to what is now the OA family (RAAF. Director General Personnel - Air Force, 2018; RAAF. Directorate of Workforce Aviation, 2019). As an example, the periods of protected service (applied from date of appointment) for a non-ADFA entrant immediately prior to the OA reform are as follows:

- ABM: 8 years
- AEO: 0 years
- AMO: 8 years
- ATC: 7 years
- FJP: 11.5 years
- FWP: 11.5 years
- MPRO: 8 years
- WSO: 8 years



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APPENDIX C: DETAILED DATA DESCRIPTION

A. SUMMARY STATISTICS

Table 7. Summary Statistics by Parental Status and Marital Status: Research Question 1 (Separation)

	All (1)	Parent (2)	No Children (3)	Single (4)	Partnered (5)	Formerly Partnered (6)
Age when hired (years) ¹	21.21 (5.489)	21.60 (6.026)	20.77 (4.768)	20.17 (3.421)	21.24 (5.506)	22.00 (6.633)
Length of service (years)	16.63 (9.028)	20.05 (8.187)	12.74 (8.343)	10.22 (7.073)	17.64 (8.706)	18.88 (9.152)
Female (x100%)	0.0993 (0.299)	0.0546 (0.227)	0.150 (0.357)	0.183 (0.387)	0.0771 (0.267)	0.0996 (0.300)
Male (x100%)	0.901 (0.299)	0.945 (0.227)	0.850 (0.357)	0.817 (0.387)	0.923 (0.267)	0.900 (0.300)
Number of relocations	2.102 (1.793)	2.459 (1.919)	1.696 (1.541)	1.493 (1.420)	2.442 (1.867)	1.516 (1.524)
FWP (x100%)	0.356 (0.479)	0.367 (0.482)	0.343 (0.475)	0.310 (0.463)	0.368 (0.482)	0.354 (0.479)
FJP (x100%)	0.124 (0.329)	0.124 (0.330)	0.123 (0.328)	0.107 (0.309)	0.130 (0.336)	0.117 (0.322)
ATC (x100%)	0.211 (0.408)	0.199 (0.400)	0.224 (0.417)	0.228 (0.420)	0.199 (0.399)	0.235 (0.424)
WSO (x100%)	0.0388 (0.193)	0.0338 (0.181)	0.0444 (0.206)	0.0329 (0.178)	0.0386 (0.193)	0.0445 (0.206)
AMO (x100%)	0.0315 (0.175)	0.0325 (0.177)	0.0303 (0.172)	0.0287 (0.167)	0.0304 (0.172)	0.0374 (0.190)
MPRO (x100%)	0.0869 (0.282)	0.0975 (0.297)	0.0748 (0.263)	0.0862 (0.281)	0.0820 (0.274)	0.103 (0.304)
ABM (x100%)	0.119 (0.324)	0.100 (0.300)	0.141 (0.349)	0.197 (0.398)	0.113 (0.317)	0.0730 (0.260)
AEO (x100%)	0.0336 (0.180)	0.0455 (0.208)	0.0200 (0.140)	0.0103 (0.101)	0.0391 (0.194)	0.0356 (0.185)
Separated (x100%)	0.412 (0.492)	0.446 (0.497)	0.372 (0.484)	0.329 (0.470)	0.306 (0.461)	0.831 (0.375)
Observations	2890	1539	1351	487	1841	562

Primary value is mean, standard deviation in parentheses.

¹+/- one year.



Table 8. Summary Statistics by Number of Children: Research Question 1 (Separation)

	All (1)	0 (2)	1 (3)	2 (4)	3 (5)	4 (6)	5 (7)	6 (8)	7 (9)
Age when hired (years) ¹	21.21 (5.489)	20.77 (4.768)	21.12 (5.338)	21.65 (6.210)	21.82 (6.262)	22.70 (6.732)	22 (6.191)	24.50 (9.192)	28 (10.54)
Length of service (years)	16.63 (9.028)	12.74 (8.343)	17.89 (8.009)	20.74 (8.218)	20.92 (7.728)	22.01 (7.966)	24.97 (8.821)	21.46 (4.385)	19.53 (13.60)
Female (x100%)	0.0993 (0.299)	0.150 (0.357)	0.0706 (0.256)	0.0501 (0.218)	0.0511 (0.221)	0.0286 (0.168)	0 (0)	0 (0)	0 (0)
Male (x100%)	0.901 (0.299)	0.850 (0.357)	0.929 (0.256)	0.950 (0.218)	0.949 (0.221)	0.971 (0.168)	1.000 (0)	1.000 (0)	1.000 (0)
Youngest child's Age	8.349 (7.059)	0 (0)	6.864 (7.715)	9.220 (6.892)	8.161 (6.326)	9.356 (5.988)	7.372 (5.432)	7.448 (4.451)	9.776 (8.082)
Eldest child's Age	11.29 (7.934)	0 (0)	6.864 (7.715)	12.02 (7.130)	13.95 (6.889)	17.76 (6.778)	22.89 (6.092)	24.04 (3.103)	25.59 (8.823)
Single (x100%)	0.169 (0.374)	0.352 (0.478)	0.0159 (0.125)	0.00407 (0.0637)	0.00365 (0.0604)	0 (0)	0.0769 (0.277)	0 (0)	0 (0)
Partnered (x100%)	0.637 (0.481)	0.492 (0.500)	0.761 (0.427)	0.752 (0.432)	0.803 (0.399)	0.786 (0.413)	0.692 (0.480)	1.000 (0)	0.333 (0.577)
Partnered serving member (x100%)	0.0978 (0.297)	0.0962 (0.295)	0.120 (0.325)	0.101 (0.301)	0.0909 (0.288)	0 (0)	0 (0)	0 (0)	0 (.)
Formerly partnered (x100%)	0.194 (0.396)	0.156 (0.363)	0.223 (0.417)	0.244 (0.430)	0.193 (0.396)	0.214 (0.413)	0.231 (0.439)	0 (0)	0.667 (0.577)
Number of relocations	2.102 (1.793)	1.696 (1.541)	2.433 (1.823)	2.411 (1.931)	2.620 (2.033)	2.671 (1.991)	1.769 (1.536)	2.500 (0.707)	1.333 (1.528)
FWP (x100%)	0.356 (0.479)	0.343 (0.475)	0.326 (0.469)	0.375 (0.485)	0.405 (0.492)	0.357 (0.483)	0.538 (0.519)	0 (0)	0.667 (0.577)
FJP (x100%)	0.124 (0.329)	0.123 (0.328)	0.141 (0.349)	0.114 (0.318)	0.139 (0.346)	0.0857 (0.282)	0.0769 (0.277)	0 (0)	0 (0)
ATC (x100%)	0.211 (0.408)	0.224 (0.417)	0.223 (0.417)	0.196 (0.398)	0.142 (0.350)	0.286 (0.455)	0.231 (0.439)	0.500 (0.707)	0.333 (0.577)
WSO (x100%)	0.0388 (0.193)	0.0444 (0.206)	0.0342 (0.182)	0.0312 (0.174)	0.0438 (0.205)	0.0286 (0.168)	0 (0)	0 (0)	0 (0)
AMO (x100%)	0.0315 (0.175)	0.0303 (0.172)	0.0319 (0.176)	0.0285 (0.166)	0.0438 (0.205)	0.0429 (0.204)	0 (0)	0 (0)	0 (0)
MPRO (x100%)	0.0869 (0.282)	0.0748 (0.263)	0.100 (0.301)	0.103 (0.304)	0.0949 (0.294)	0.0429 (0.204)	0 (0)	0.500 (0.707)	0 (0)



	All (1)	0 (2)	1 (3)	2 (4)	3 (5)	4 (6)	5 (7)	6 (8)	7 (9)
ABM (x100%)	0.119 (0.324)	0.141 (0.349)	0.0979 (0.298)	0.106 (0.308)	0.0912 (0.288)	0.114 (0.320)	0 (0)	0 (0)	0 (0)
AEO (x100%)	0.0336 (0.180)	0.0200 (0.140)	0.0456 (0.209)	0.0461 (0.210)	0.0401 (0.197)	0.0429 (0.204)	0.154 (0.376)	0 (0)	0 (0)
Separated (x100%)	0.412 (0.492)	0.372 (0.484)	0.408 (0.492)	0.472 (0.500)	0.423 (0.495)	0.443 (0.500)	0.692 (0.480)	0.500 (0.707)	1 (0)
Observations	2890	1351	439	738	274	70	13	2	3

Primary value is mean, standard deviation in parentheses.
¹+/- one year.

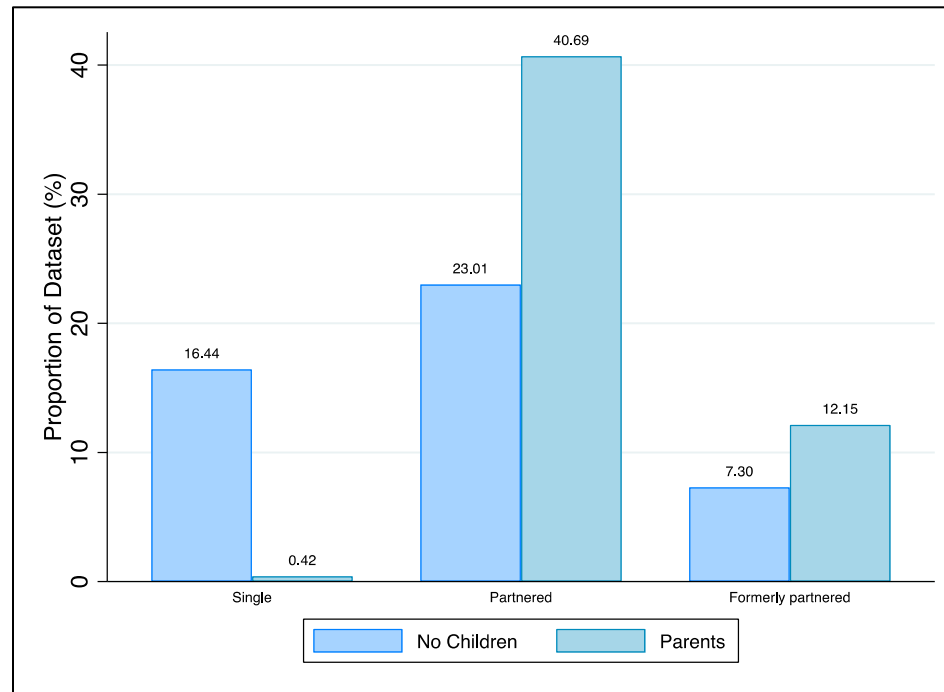


Figure 10. Research Question 1 Sample by Parental Status and Marital Status



Table 9. Summary Statistics by Parental Status: Research Question 2
(Re-entry)

	All (1)	No Children (2)	Parent (3)
Age when initially hired (years) ¹	21.64 (6.404)	21.34 (6.087)	21.85 (6.606)
Age when separated (years) ¹	40.36 (9.226)	37.90 (10.22)	42.03 (8.081)
Length of service at separation (years)	18.86 (9.077)	16.69 (9.427)	20.32 (8.535)
Length of time since separation (years)	6.990 (4.587)	7.012 (4.591)	6.975 (4.588)
Female (x100%)	0.0714 (0.258)	0.123 (0.329)	0.0366 (0.188)
Male (x100%)	0.929 (0.258)	0.877 (0.329)	0.963 (0.188)
Number of children	1.255 (1.256)	0 (0)	2.104 (0.925)
Has single child (x100%)	0.143 (0.350)	0 (0)	0.239 (0.427)
Eldest child's Age	18.90 (9.426)	0 (0)	18.90 (9.426)
Youngest child's Age	15.68 (8.985)	0 (0)	15.68 (8.985)
Single (x100%)	0.134 (0.341)	0.317 (0.466)	0.0113 (0.106)
Partnered (x100%)	0.473 (0.499)	0.365 (0.482)	0.546 (0.498)
Partnered serving member (x100%)	0.0622 (0.242)	0.0800 (0.272)	0.0541 (0.227)
Formerly partnered (x100%)	0.392 (0.488)	0.319 (0.466)	0.442 (0.497)
FWP (x100%)	0.390 (0.488)	0.350 (0.477)	0.417 (0.493)
FJP (x100%)	0.114 (0.318)	0.104 (0.306)	0.121 (0.327)
ATC (x100%)	0.219 (0.414)	0.254 (0.436)	0.196 (0.397)
WSO (x100%)	0.0353 (0.185)	0.0458 (0.209)	0.0282 (0.166)
AMO (x100%)	0.0420 (0.201)	0.0458 (0.209)	0.0394 (0.195)
MPRO (x100%)	0.0798 (0.271)	0.0708 (0.257)	0.0859 (0.280)
ABM (x100%)	0.0748 (0.263)	0.0938 (0.292)	0.0620 (0.241)
AEO (x100%)	0.0445 (0.206)	0.0354 (0.185)	0.0507 (0.220)
Re-Entered (x100%)	0.0857 (0.280)	0.0500 (0.218)	0.110 (0.313)
Observations	1190	480	710

Primary value is mean, standard deviation in parentheses.

¹ +/- one year.



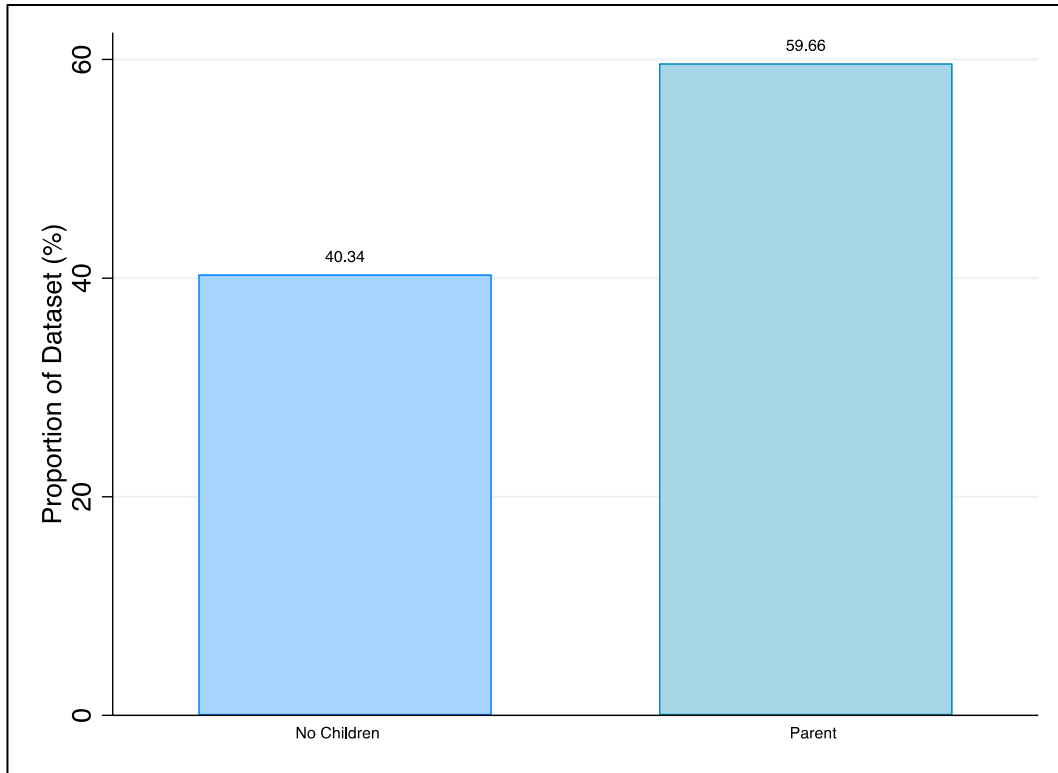


Figure 11. Research Question 2 Sample by Parental Status

B. SUMMARY OF ALL VARIABLES

Table 10. Variables of Interest (Research Question 1)

Variable	Type	Values	Description
Age when first hired (+/- one year)	Fixed categorical	<18 years old	Member was less than 18 years of age when first hired
		18 or 19 years old	Member was at 18 or 19 years of age when first hired
		20–24 years old	Member was at least 20 but less than 25 years of age when first hired
		25–29 years old	Member was at least 25 but less than 30 years of age when first hired
		>30 years old	Member was at least 30 years of age when first hired
Child's age	Time-varying categorical	Not yet born	Member does not have a child
		Infant	Child is less than 18 months old
		Toddler	Child is at least 18 months old but less than 4.5 years of age
		Kindergarten	Child is at least 4.5 but less than 5.5 years of age
		Primary School	Child is at least 5.5 but less than 12.5 years of age
		Junior Secondary School	Child is at least 12.5 but less than 15.5 years of age
		Senior Secondary School	Child is at least 15.5 but less than 19 years of age
		Finished School	Child is at least 19 years of age
Child has Started school	Time-varying indicator	1	Child is at least 4.5 years of age
		0	Member does not have a child, or child is less than 4.5 years of age
Competency Stream	Fixed categorical	FWP	Member is placed in the Fixed Wing Pilot competency stream
		FJP	Member is placed in the Fast Jet Pilot competency stream
		ATC	Member is placed in the Air Traffic Control competency stream
		WSO	Member is placed in the Weapons Systems competency stream
		AMO	Member is placed in the Air Mobility competency stream
		MPRO	Member is placed in the Maritime Patrol and Response competency stream
		ABM	Member is placed in the Air Battle Management competency stream
		AEO	Member is placed in the Airborne Electronics competency stream
Covered Service	Time-varying indicator	1	Member is assumed to be subject to covered service
		0	Member is assumed not to be subject to covered service
Family Size	Time-varying categorical	No Children	0 children
		Single Child	1 child
		Multiple children	2–7 children
<i>Family Size (Alternate: Number of children)</i>	<i>Time-varying categorical</i>	0	<i>Member has no children</i>
		1	<i>Member has one child</i>
		2	<i>Member has two children</i>
		3	<i>Member has three children</i>
		4	<i>Member has four children</i>
5+	<i>Member has five, six, or seven children</i>		
<i>Family Size (Alternate: Number of children)</i>	<i>Time-varying categorical</i>	<i>No Children</i>	<i>Member has no children</i>
		<i>Single child</i>	<i>Member has one child</i>
		<i>2 or 3 children</i>	<i>Member has two or three children</i>
		<i>4+ children</i>	<i>Member has four, five, six, or seven children</i>
Female	Time-varying indicator	1	Member is female
		0	Member is male
Length of PAF Service (LOPS)	Time-varying categorical	LOPS <2 yrs	Member has completed less than two years in the PAF
		LOPS 2–5 yrs	Member has completed at least two but less than five years in the PAF
		LOPS 5–10 yrs	Member has completed at least five but less than 10 years in the PAF
		LOPS 10–15 yrs	Member has completed at least 10 but less than 15 years in the PAF
		LOPS 15–20 yrs	Member has completed at least 15 but less than 20 years in the PAF



Variable	Type	Values	Description
Marital Status	Fixed categorical	LOPS 20–25 yrs	Member has completed at least 20 but less than 25 years in the PAF
		LOPS >25 yrs	Member has completed at least 25 years in the PAF
		Single	Member is single
		Partnered	Member is married or in a common-law partnership
Mother	Time-varying indicator	1	Member is a mother
		0	Member is not a mother
MSBS	Time-varying indicator	1	Member is eligible for the MSBS Retention Benefit
		0	Member is not eligible for the MSBS Retention Benefit
Partnered Serving Member	Fixed indicator	1	Member a partnered with an permanent ADF member
Parent	Time-varying indicator	1	Member has children
		0	Member does not have children
Separated	Time-varying indicator	1	Member separated
		0	Member did not separate
Single child family	Fixed indicator	1	Member will only ever have one child
		0	Member will have no or more than one child
Single parent	Fixed indicator	1	Member has children and is single or formerly partnered
		0	Member has no children and/or is partnered.
Twins	Time-varying indicator	1	Member has twins
		0	Member does not have twins
Wage system	Time-varying categorical	OCS	Observation is prior to 01 October 2009
		GOPS (OARS1)	Observation is between 01 October 2009 and 03 May 2018
		OAPS (OARS 3)	Observation is on or after 03 May 2018



Table 11. Variables of Interest (Research Question 2)

Variable	Type	Values	Description
Child's age	Time-varying categorical	Not yet born	Member does not have a child
		Infant	Child is less than 18 months old
		Toddler	Child is at least 18 months old but less than 4.5 years of age
		Kindergarten	Child is at least 4.5 but less than 5.5 years of age
		Primary School	Child is at least 5.5 but less than 12.5 years of age
		Junior Secondary School	Child is at least 12.5 but less than 15.5 years of age
		Senior Secondary School	Child is at least 15.5 but less than 19 years of age
Child has Started school	Time-varying indicator	1	Member has a child who is at least 4.5 years of
		0	Member does not have a child or has a child less than 4.5 years of age
Competency Stream	Fixed categorical	FWP	Member is placed in the Fixed Wing Pilot competency stream
		FJP	Member is placed in the Fast Jet Pilot competency stream
		ATC	Member is placed in the Air Traffic Control competency stream
		WSO	Member is placed in the Weapons Systems competency stream
		AMO	Member is placed in the Air Mobility competency stream
		MPRO	Member is placed in the Maritime Patrol and Response competency stream
		ABM	Member is placed in the Air Battle Management competency stream
Female	Time-varying indicator	1	Member is female
		0	Member is male
Length of time out (LoTO)	Time Varying continuous	<i>Integer 0–15 years</i>	<i>The member's separation date is subtracted from the observation date and rounded up.</i>
Mother	Time-varying indicator	1	Member is a mother
		0	Member is not a mother
Parent	Time-varying indicator	1	Member has children
		0	Member does not have children
Re-entered	Time-varying indicator	1	Member re-entered the PAF
		0	Member did not re-enter the PAF
Separation Age (+/- one year)	Fixed categorical	<30 years old	Member was less than 30 years of age when they separated
		30–35 years old	Member was at least 30 but less than 35 years of age when they separated
		35–40 years old	Member was at least 35 but less than 40 years of age when they separated
		40–45 years old	Member was at least 40 but less than 45 years of age when they separated
		45–50 years old	Member was at least 45 but less than 50 years of age when they separated
		50–55 years old	Member was at least 55 but less than 55 years of age when they separated
		>55 years old	Member was at least 55 years of age when they separated



C. ADDITIONAL CONTROLS (NOT INCLUDED)

The following effects were considered for control in each of the various econometric models:

- **Age.** Once the member's age when they first entered the ADF or their age when they separated is considered, their age is near perfectly collinear with their length of permanent service. As a result, I favored the Age when first hired and Age when separated variables as more appropriate controls.
- **Age when first dependent child born.** I am not confident that a member's age when their first dependent child was born has any bearing as to their propensity to separate, desire for re-entry, or the independent co-variates (excepting potentially the total number of children in a family). As a result, to limit complexity a member's age when their first dependent child was born was omitted from the controls.
- **Number of relocations.** The potential number of relocations a member is subject to during their service career obviously increases with their time in Service. Thus, it is highly collinear with length of service. Further, I have no visibility as to the number of relocations a member has been subject to prior to their first observation. Therefore, the number of relocations I would be able to analyze is not consistent with what the variable would otherwise be controlling for.⁶⁹
- **Rank.** A member's promoted rank increases with their time in Service. Further, there is also potential that a member's competitiveness for promotion is affected by their competency stream. As a result, I considered a member's rank to be collinear with both length of permanent service and their competency stream and omitted it as a control variable.

⁶⁹ Supplementary analysis (see Table 18 (Appendix A, Section A), suggested a negative correlation (i.e., as number of relocations increased, propensity to separate decreased).



- **Length of permanent service at separation (re-entry).** I suspected that a member's length of permanent service at the point of separation may contribute to their desire for re-entry. Preliminary investigations found no such relationship of significance. Thus, a member's length of permanent service at their separation was excluded further analysis.
- **Wage system (re-entry).** I expect that OAPS will have different effects on re-entry behaviors in the future, when compared with OARS1. OAPS remains in infancy, however, and was in use for the final 18 months of the observation period only. Preliminary investigations found no significant relationship between the three wage systems and re-entry; thus, they were excluded from further analysis.



APPENDIX D: RESEARCH QUESTION 1 (SEPARATION BEHAVIORS) SUPPLEMENTARY RESULTS

A. ADDITIONAL MODELS

Table 12. Additional Co-variates to Table 3 (Relationship between Separation, Parental Status, and Marital Status)

	(1)	(2)	(3)	(4)	(5)
Parent	-0.022*** (0.003)	-0.023*** (0.003)	-0.023*** (0.003)	-0.023*** (0.003)	-0.023*** (0.003)
Single					
Partnered	-0.023*** (0.004)	-0.023*** (0.004)	-0.023*** (0.004)	-0.022*** (0.004)	-0.023*** (0.004)
Formerly partnered	0.031*** (0.005)	0.031*** (0.005)	0.031*** (0.005)	0.029*** (0.006)	0.029*** (0.006)
Partnered serving member	-0.006* (0.003)	-0.006 (0.003)	-0.006 (0.003)	-0.006* (0.003)	-0.006 (0.003)
Female		-0.003 (0.004)	-0.003 (0.005)		-0.003 (0.005)
Mother			0.002 (0.007)		0.002 (0.007)
Single parent				0.004 (0.007)	0.003 (0.007)
Constant	0.063*** (0.003)	0.063*** (0.003)	0.063*** (0.003)	0.062*** (0.003)	0.063*** (0.003)
Observations	33185	33185	33185	33185	33185
R-Squared	0.034	0.034	0.034	0.034	0.034
Marital Status p-value ¹	0.000	0.000	0.000	0.000	0.000

Outcome variable in all specifications is 'Separated', clustered on the individual member. Standard Errors in parentheses.

Models include (but do not display) controls for length of permanent service, protected service, MSBS Retention Benefit eligibility, wage system in use, age when hired, and competency stream.

¹ Represents the p-value for the F-Test that the parameter estimates are equal for Partnered and Formerly Partnered

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$



Table 13. Additional Co-variates to Table 4 (Relationship between Separation and Family Size)

	(1)	(2)	(3)	(4)	(5)
Parent	-0.045*** (0.002)	-0.045*** (0.002)	-0.045*** (0.002)	-0.045*** (0.002)	-0.045*** (0.002)
No children					
Single child	0.006* (0.002)	0.006* (0.002)	0.006* (0.002)	0.006* (0.002)	0.006* (0.002)
Multiple children (2–7)	0.012*** (0.002)	0.012*** (0.002)	0.012*** (0.002)	0.012*** (0.002)	0.012*** (0.002)
Single parent	0.053*** (0.003)	0.053*** (0.003)	0.053*** (0.003)	0.053*** (0.003)	0.053*** (0.003)
Female		-0.001 (0.003)	0.000 (0.005)		0.000 (0.005)
Mother			-0.003 (0.007)		-0.004 (0.007)
Twins				0.003 (0.006)	0.003 (0.006)
Constant	0.054*** (0.002)	0.054*** (0.002)	0.054*** (0.002)	0.054*** (0.002)	0.054*** (0.002)
Observations	33185	33185	33185	33185	33185
R-Squared	0.031	0.031	0.031	0.031	0.031
Family size p-value ¹	0.039	0.040	0.041	0.044	0.046

Outcome variable in all specifications is ‘Separated’, clustered on the individual member. Standard Errors in parentheses.

Models include (but do not display) controls for length of permanent service, protected service, MSBS Retention Benefit eligibility, wage system in use, age when hired, and competency stream.

Average children per family with children is 1.85.

Average children per multi-child family is 2.19.

¹Represents the p-value for the F-Test that the parameter estimates are equal for single-child and multiple-child families.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$



Table 14. Additional Co-variates to Table 5 (Relationship between Separation and (Eldest) Child's Age)

	(1)	(2)	(3)	(4)	(5)	(6)
Parent	-0.021*** (0.003)	-0.021*** (0.003)	-0.021*** (0.003)	-0.022*** (0.003)	-0.021*** (0.003)	-0.022*** (0.003)
Single						
Partnered	-0.023*** (0.004)	-0.023*** (0.004)	-0.023*** (0.004)	-0.022*** (0.004)	-0.023*** (0.004)	-0.023*** (0.004)
Formerly partnered	0.031*** (0.005)	0.031*** (0.005)	0.031*** (0.005)	0.029*** (0.006)	0.031*** (0.005)	0.029*** (0.006)
Partnered serving member	-0.007* (0.003)	-0.006 (0.003)	-0.006 (0.003)	-0.007* (0.003)	-0.007* (0.003)	-0.006 (0.003)
Single-Child Family	0.009*** (0.003)	0.009*** (0.003)	0.009*** (0.003)	0.009*** (0.003)	0.010*** (0.003)	0.010*** (0.003)
Child has started school	0.014*** (0.002)	0.014*** (0.002)	0.014*** (0.002)	0.014*** (0.002)	0.014*** (0.002)	0.014*** (0.002)
Female		-0.003 (0.004)	-0.003 (0.005)			-0.003 (0.005)
Mother			0.002 (0.007)			0.001 (0.007)
Single parent				0.004 (0.007)		0.004 (0.007)
Twins					0.008 (0.006)	0.008 (0.006)
Constant	0.049*** (0.004)	0.049*** (0.004)	0.049*** (0.004)	0.048*** (0.004)	0.049*** (0.004)	0.049*** (0.004)
Observations	33185	33185	33185	33185	33185	33185
R-Squared	0.035	0.035	0.035	0.035	0.035	0.035
Marital Status p-value ¹	0.000	0.000	0.000	0.000	0.000	0.000

Outcome variable in all specifications is 'Separated', clustered on the individual member. Standard Errors in parentheses.

Models include (but do not display) controls for length of permanent service, protected service, MSBS Retention Benefit eligibility, wage system in use, age when hired, and competency stream.

Average age difference between the eldest and youngest child (in multi-child families) is 4.13 years.

¹ Represents the p-value for the F-Test that the parameter estimates are equal for partnered and formerly partnered.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 15. Alternate to Table 4: Individual Number of Children (Relationship between Separation and Family Size)

	(1)	(2)	(3)	(4)
Parent	-0.040*** (0.002)	-0.045*** (0.002)	-0.040*** (0.002)	-0.045*** (0.002)
No children				
Single child	0.011*** (0.002)	0.006* (0.002)	0.011*** (0.002)	0.006* (0.002)
Multiple children (2–7)	0.017*** (0.002)	0.012*** (0.002)		
2 children			0.018*** (0.003)	0.013*** (0.003)
3 children			0.016*** (0.004)	0.012** (0.004)
4 children			0.006 (0.007)	0.002 (0.006)
5 children			0.033 (0.018)	0.018 (0.022)
6 children			0.014 (0.026)	0.007 (0.034)
7 children			0.047 (0.036)	0.028 (0.023)
Single parent		0.053*** (0.003)		0.053*** (0.003)
Constant	0.055*** (0.002)	0.054*** (0.002)	0.055*** (0.002)	0.054*** (0.002)
Observations	33185	33185	33185	33185
R-Squared	0.023	0.031	0.023	0.031
Family size p-value	0.055 ¹	0.039 ¹	0.229 ²	0.299 ²

Outcome variable in all specifications is 'Separated', clustered on the individual member. Standard Errors in parentheses.

Models include (but do not display) controls for length of permanent service, protected service, MSBS Retention Benefit eligibility, wage system in use, age when hired, and competency stream.

Average children per family with children is 1.85.

Average children per multi-child family is 2.19.

¹ Represents the p-value for the F-Test that the parameter estimates are equal for single-child and multiple-child families.

² Represents the p-value for the F-Test that the parameter estimates are equal for each individual number of children.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$



Table 16. Alternate to Table 5: Youngest Child (Relationship between Separation and Child's Age)

	(1)	(2)	(3)	(4)	(5)	(6)
Parent	-0.030*** (0.002)	-0.042*** (0.002)	-0.046*** (0.003)	-0.032*** (0.002)	-0.036*** (0.003)	-0.027*** (0.003)
Infant (<18 months)						
Toddler (1.5–4.5 yo)		0.034*** (0.005)	0.035*** (0.005)	0.033*** (0.005)	0.034*** (0.005)	
Kindergarten (4.5–5.5 yo)		0.038*** (0.010)	0.040*** (0.010)	0.038*** (0.010)	0.039*** (0.010)	
Primary School (5.5–12.5yo)		0.023*** (0.005)	0.025*** (0.005)	0.023*** (0.005)	0.024*** (0.005)	
Jnr Secondary School (12.5–15.5yo)		0.025** (0.009)	0.025** (0.009)	0.022* (0.009)	0.023** (0.009)	
Snr Secondary School (15.5–19yo)		0.019* (0.010)	0.019 (0.010)	0.016 (0.010)	0.016 (0.010)	
Finished School (>19 yo)		-0.005 (0.003)	-0.004 (0.003)	-0.001 (0.003)	-0.001 (0.003)	
Child has started school						-0.006* (0.003)
Single-Child Family			0.014*** (0.003)		0.012*** (0.003)	0.010*** (0.002)
Single						
Partnered				-0.022*** (0.004)	-0.022*** (0.004)	-0.023*** (0.004)
Formerly partnered				0.031*** (0.005)	0.030*** (0.005)	0.030*** (0.005)
Partnered serving member						-0.006* (0.003)
Constant	0.056*** (0.002)	0.059*** (0.003)	0.059*** (0.003)	0.062*** (0.004)	0.062*** (0.004)	0.069*** (0.004)
Observations	33185	33185	33185	33185	33185	33185
R-Squared	0.022	0.026	0.027	0.037	0.038	0.034
Young child p-value ¹		0.133	0.133	0.122	0.121	
Young child p-value ²		0.081	0.094	0.073	0.083	
Senior school p-value ³		0.633	0.575	0.616	0.566	
Older child p-value ⁴		0.016	0.018	0.068	0.076	
Marital Status p-value ⁵				0.000	0.000	0.000

Outcome variable in all specifications is 'Separated', clustered on the individual member. Standard Errors in parentheses.

Models include (but do not display) controls for length of permanent service, protected service, MSBS Retention Benefit eligibility, wage system in use, age when hired, and competency stream.

Average age difference between the eldest and youngest child (in multi-child families) is 4.13 years.

¹ Represents the p-value for the F-Test that the parameter estimates are equal for kindergarten and primary school-aged children.

² Represents the p-value for the F-Test that the parameter estimates are equal for toddler and primary school-aged children.

³ Represents the p-value for the F-Test that the parameter estimates are equal for junior secondary school and senior secondary school-aged children.

⁴ Represents the p-value for the F-Test that the parameter estimates are equal for senior secondary school and finished school-aged children.

⁵ Represents the p-value for the F-Test that the parameter estimates are equal for partnered and formerly partnered.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$



Table 17. Alternate to Table 5: Eldest Child and Youngest Child
(Relationship between Separation and Child's Age)

	(1)	(2)	(3)	(4)	(5)	(6)
Parent	-0.030*** (0.002)	-0.033*** (0.003)	-0.036*** (0.003)	-0.024*** (0.003)	-0.026*** (0.003)	-0.023*** (0.003)
(E) Infant (<18 months)						
(E) Toddler (1.5–4.5 yo)		-0.002 (0.003)	-0.001 (0.003)	-0.001 (0.003)	0.001 (0.003)	
(E) Kindergarten (4.5–5.5 yo)		-0.005 (0.007)	-0.003 (0.007)	-0.003 (0.007)	-0.001 (0.007)	
(E) Primary School (5.5–12.5yo)		-0.012** (0.005)	-0.010* (0.005)	-0.009 (0.005)	-0.007 (0.005)	
(E) Jnr Secondary School (12.5–15.5yo)		-0.022** (0.007)	-0.020** (0.007)	-0.019** (0.007)	-0.017* (0.007)	
(E) Snr Secondary School (15.5–19yo)		-0.011 (0.008)	-0.009 (0.008)	-0.010 (0.008)	-0.008 (0.008)	
(E) Finished School (>19 yo)		0.021*** (0.002)	0.020*** (0.003)	0.022*** (0.002)	0.021*** (0.003)	
(Y) Infant (<18 months)						
(Y) Toddler (1.5–4.5 yo)		0.038*** (0.006)	0.038*** (0.006)	0.036*** (0.005)	0.036*** (0.005)	
(Y) Kindergarten (4.5–5.5 yo)		0.045*** (0.010)	0.045*** (0.010)	0.043*** (0.010)	0.043*** (0.010)	
(Y) Primary School (5.5–12.5yo)		0.033*** (0.006)	0.033*** (0.006)	0.030*** (0.006)	0.030*** (0.006)	
(Y) Jnr Secondary School (12.5–15.5yo)		0.031** (0.010)	0.031** (0.010)	0.027** (0.010)	0.028** (0.010)	
(Y) Snr Secondary School (15.5–19yo)		0.010 (0.011)	0.011 (0.011)	0.008 (0.011)	0.009 (0.011)	
(Y) Finished School (>19 yo)		-0.019*** (0.003)	-0.017*** (0.003)	-0.016*** (0.003)	-0.014*** (0.003)	
(E) Child has started school						0.019*** (0.002)
(Y) Child has started school						-0.013*** (0.003)
Single-Child Family			0.008** (0.003)		0.007* (0.003)	0.009*** (0.003)
Single				0.000 (.)	0.000 (.)	0.000 (.)
Partnered				-0.022*** (0.004)	-0.022*** (0.004)	-0.023*** (0.004)
Formerly partnered				0.030*** (0.005)	0.030*** (0.005)	0.030*** (0.005)
Partnered serving member						-0.006* (0.003)
Constant	0.056*** (0.002)	0.053*** (0.004)	0.053*** (0.004)	0.055*** (0.005)	0.055*** (0.005)	0.057*** (0.005)
Observations	33185	33185	33185	33185	33185	33185
R-Squared	0.022	0.028	0.028	0.039	0.039	0.036
(E) Young child p-value ¹		0.321	0.330	0.438	0.446	
(Y) Young child p-value ¹		0.221	0.227	0.202	0.207	
(E) Young child p-value ²		0.040	0.054	0.094	0.117	
(Y) Young child p-value ²		0.411	0.434	0.340	0.357	
(E) Senior school p-value ³		0.200	0.223	0.295	0.319	
(Y) Senior school p-value ³		0.098	0.108	0.104	0.113	
(E) Older child p-value ⁴		0.000	0.001	0.000	0.000	



	(1)	(2)	(3)	(4)	(5)	(6)
(Y) Older child p-value ⁴		0.006	0.008	0.028	0.032	
Marital Status p-value ⁵				0.000	0.000	0.000

Outcome variable in all specifications is 'Separated', clustered on the individual member. Standard Errors in parentheses.

Models include (but do not display) controls for length of permanent service, protected service, MSBS Retention Benefit eligibility, wage system in use, age when hired, and competency stream.

'(E)' denotes eldest child, '(Y)' denotes youngest child.

Average age difference between the eldest and youngest child (in multi-child families) is 4.13 years.

¹ Represents the p-value for the F-Test that the parameter estimates are equal for kindergarten and primary school-aged children.

² Represents the p-value for the F-Test that the parameter estimates are equal for toddler and primary school-aged children.

³ Represents the p-value for the F-Test that the parameter estimates are equal for junior secondary school and senior secondary school-aged children.

⁴ Represents the p-value for the F-Test that the parameter estimates are equal for senior secondary school and finished school-aged children.

⁵ Represents the p-value for the F-Test that the parameter estimates are equal for partnered and formerly partnered.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 18. Relationship between Separation and Number of Relocations

	(1)	(2)	(3)
Parent	-0.031*** (0.002)	-0.019*** (0.002)	-0.035*** (0.004)
Number of Relocations		-0.013*** (0.001)	-0.017*** (0.001)
Parent x Number of Relocations			0.006*** (0.001)
Constant	0.056*** (0.002)	0.085*** (0.003)	0.095*** (0.004)
Observations	33185	33185	33185
R-Squared	0.036	0.051	0.051

Outcome variable in all specifications is 'Separated', clustered on the individual member. Standard Errors in parentheses.

Models include (but do not display) controls for family size, marital status, whether eldest child has started school, length of permanent service, protected service, MSBS Retention Benefit eligibility, wage system in use, age when hired, and competency stream.

The average number of moves per members is 2.10.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 19. Relationship between Separation, Parental Status, and Becoming a Parent

	(1)	(2)
Parent Ever	-0.018*** (0.003)	-0.031*** (0.002)
Parent Now		0.023*** (0.003)
Constant	0.048*** (0.002)	0.045*** (0.002)
Observations	33185	33185
R-Squared	0.035	0.036

Outcome variable in all specifications is 'Separated', clustered on the individual member. Standard Errors in parentheses.

Models include (but do not display) controls for marital status, whether eldest child has started school, length of permanent service, protected service, MSBS Retention Benefit eligibility, wage system in use, age when hired, and competency stream.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$



B. ALL PARAMETER ESTIMATES

Table 20. Table 3 Inclusive Control Variables (Relationship between Separation, Parental Status, and Marital Status)

	(1)	(2)	(3)	(4)	(5)
LoS 10–15 yrs					
LoS <2 yrs	-0.053*** (0.004)	-0.053*** (0.004)	-0.047*** (0.004)	-0.047*** (0.004)	-0.051*** (0.004)
LoS 2–5 yrs	-0.036*** (0.003)	-0.034*** (0.003)	-0.028*** (0.003)	-0.028*** (0.003)	-0.032*** (0.003)
LoS 5–10 yrs	-0.030*** (0.003)	-0.029*** (0.003)	-0.025*** (0.003)	-0.025*** (0.003)	-0.028*** (0.003)
LoS 15–20 yrs	0.026*** (0.005)	0.025*** (0.005)	0.024*** (0.005)	0.024*** (0.005)	0.025*** (0.005)
LoS 20–25 yrs	0.024*** (0.005)	0.023*** (0.004)	0.020*** (0.004)	0.020*** (0.004)	0.023*** (0.004)
LoS >25 yrs	0.040*** (0.004)	0.036*** (0.004)	0.034*** (0.004)	0.034*** (0.004)	0.036*** (0.004)
Protected Service	-0.008* (0.003)	-0.008** (0.003)	-0.009** (0.003)	-0.009** (0.003)	-0.009** (0.003)
MSBS	-0.022*** (0.006)	-0.019** (0.006)	-0.021*** (0.006)	-0.021*** (0.006)	-0.020*** (0.006)
GOPS					
OCS (pre-01 Oct 2009)	0.007** (0.002)	0.003 (0.002)	-0.002 (0.002)	-0.002 (0.002)	0.000 (0.002)
OAPS (post-03 May 2018)	-0.001 (0.003)	0.002 (0.003)	0.005 (0.003)	0.005 (0.003)	0.003 (0.003)
Hire: 18 or 19 yo					
Hire: < 18 yo	0.003 (0.003)	0.003 (0.003)	0.002 (0.003)	0.002 (0.003)	0.003 (0.003)
Hire: 20–24 yo	0.010*** (0.002)	0.008*** (0.002)	0.005* (0.002)	0.005* (0.002)	0.007** (0.002)
Hire: 25–29 yo	0.019*** (0.004)	0.019*** (0.004)	0.017*** (0.004)	0.016*** (0.004)	0.018*** (0.004)
Hire: >30 yo	0.036*** (0.004)	0.032*** (0.004)	0.029*** (0.004)	0.029*** (0.004)	0.031*** (0.004)
FWP					
FJP	-0.008** (0.003)	-0.009*** (0.003)	-0.009*** (0.003)	-0.009*** (0.003)	-0.009*** (0.003)
ATC	-0.007* (0.003)	-0.009** (0.003)	-0.009** (0.003)	-0.009** (0.003)	-0.010*** (0.003)
WSO	-0.013** (0.005)	-0.015** (0.005)	-0.015** (0.005)	-0.015** (0.005)	-0.016*** (0.005)
AMO	-0.020** (0.007)	-0.019** (0.006)	-0.018** (0.006)	-0.018** (0.006)	-0.020** (0.006)
MPRO	-0.024*** (0.003)	-0.027*** (0.003)	-0.028*** (0.003)	-0.028*** (0.003)	-0.028*** (0.003)
ABM	-0.018*** (0.003)	-0.017*** (0.003)	-0.018*** (0.003)	-0.018*** (0.003)	-0.018*** (0.003)
AEO	-0.032*** (0.006)	-0.031*** (0.006)	-0.030*** (0.006)	-0.030*** (0.006)	-0.030*** (0.006)
Parent	-0.030*** (0.002)	-0.039*** (0.002)			-0.022*** (0.003)



	(1)	(2)	(3)	(4)	(5)
Single parent		0.054*** (0.003)			
Single					
Partnered			-0.037*** (0.003)	-0.036*** (0.003)	-0.023*** (0.004)
Formerly partnered			0.020*** (0.004)	0.020*** (0.004)	0.031*** (0.005)
Partnered serving member				-0.007* (0.003)	-0.006* (0.003)
Constant	0.063*** (0.004)	0.066*** (0.004)	0.072*** (0.005)	0.072*** (0.005)	0.074*** (0.005)
Observations	33185	33185	33185	33185	33185
R-Squared	0.022	0.030	0.031	0.032	0.034
Marital Status p-value ¹			0.000	0.000	0.000

Outcome variable in all specifications is 'Separated', clustered on the individual member. Standard Errors in parentheses.

Average length of permanent service for the sample is 16.63 years.

Average age when hired for the sample is 21.21 years.

¹Represents the p-value for the F-Test that the parameter estimates are equal for Partnered and Formerly Partnered

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$



Table 21. Table 4 Inclusive Control Variables (Relationship between Separation and Family Size)

	(1)	(2)	(3)	(4)	(5)
LoS 10–15 yrs					
LoS <2 yrs	-0.053*** (0.004)	-0.051*** (0.004)	-0.051*** (0.004)	-0.051*** (0.004)	-0.051*** (0.004)
LoS 2–5 yrs	-0.036*** (0.003)	-0.033*** (0.003)	-0.033*** (0.004)	-0.033*** (0.003)	-0.032*** (0.003)
LoS 5–10 yrs	-0.030*** (0.003)	-0.028*** (0.003)	-0.028*** (0.003)	-0.028*** (0.003)	-0.028*** (0.003)
LoS 15–20 yrs	0.026** (0.005)	0.023*** (0.005)	0.023*** (0.005)	0.023*** (0.005)	0.023*** (0.005)
LoS 20–25 yrs	0.024*** (0.005)	0.020*** (0.005)	0.020*** (0.005)	0.020*** (0.005)	0.020*** (0.005)
LoS >25 yrs	0.040** (0.004)	0.036*** (0.004)	0.036*** (0.004)	0.036*** (0.004)	0.034*** (0.004)
Protected Service	-0.008* (0.003)	-0.008* (0.003)	-0.008* (0.003)	-0.008* (0.003)	-0.009** (0.003)
MSBS	-0.022*** (0.006)	-0.021*** (0.006)	-0.021*** (0.006)	-0.021*** (0.006)	-0.019** (0.006)
GOPS					
OCS (pre-01 Oct 2009)	0.007** (0.002)	0.008*** (0.002)	0.008*** (0.002)	0.008*** (0.002)	0.003 (0.002)
OAPS (post-03 May 2018)	-0.001 (0.003)	-0.002 (0.003)	-0.002 (0.003)	-0.002 (0.003)	0.001 (0.003)
Hire: 18 or 19 yo					
Hire: < 18 yo	0.003 (0.003)	0.003 (0.003)	0.003 (0.003)	0.003 (0.003)	0.003 (0.003)
Hire: 20–24 yo	0.010** (0.002)	0.009*** (0.002)	0.009*** (0.002)	0.009*** (0.002)	0.008*** (0.002)
Hire: 25–29 yo	0.019*** (0.004)	0.017*** (0.004)	0.017*** (0.004)	0.017*** (0.004)	0.018*** (0.004)
Hire: >30 yo	0.036*** (0.004)	0.031*** (0.004)	0.031*** (0.004)	0.031*** (0.004)	0.029*** (0.004)
FWP					
FJP	-0.008** (0.003)	-0.007** (0.003)	-0.007** (0.003)	-0.007** (0.003)	-0.009*** (0.003)
ATC	-0.007* (0.003)	-0.007* (0.003)	-0.007* (0.003)	-0.007* (0.003)	-0.009** (0.003)
WSO	-0.013** (0.005)	-0.012* (0.005)	-0.013** (0.005)	-0.013* (0.005)	-0.015** (0.005)
AMO	-0.020** (0.007)	-0.019** (0.007)	-0.020** (0.007)	-0.020** (0.007)	-0.019** (0.006)
MPRO	-0.024*** (0.003)	-0.024*** (0.003)	-0.024*** (0.003)	-0.024*** (0.003)	-0.027*** (0.003)
ABM	-0.018*** (0.003)	-0.018*** (0.003)	-0.018*** (0.003)	-0.018*** (0.003)	-0.018*** (0.003)
AEO	-0.032*** (0.006)	-0.032*** (0.006)	-0.032*** (0.006)	-0.032*** (0.006)	-0.032*** (0.006)
Parent	-0.030*** (0.002)	-0.040*** (0.002)	-0.040*** (0.002)	-0.040*** (0.002)	-0.045*** (0.002)
No children					
Single child		0.011*** (0.002)	0.011*** (0.002)	0.011*** (0.002)	0.006* (0.002)



	(1)	(2)	(3)	(4)	(5)
2 children		0.018*** (0.003)			
3 children		0.016*** (0.004)			
4 children		0.006 (0.007)			
5+ children		0.033* (0.014)			
2 or 3 children			0.018*** (0.002)		
4+ children			0.011 (0.006)		
Multiple children (2–7)				0.017*** (0.002)	0.012*** (0.002)
Single parent					0.053*** (0.003)
Constant	0.063*** (0.004)	0.063*** (0.004)	0.063*** (0.004)	0.063*** (0.004)	0.066*** (0.004)
Observations	33185	33185	33185	33185	33185
R-Squared	0.022	0.023	0.023	0.023	0.031
Family size p-value		0.585 ¹	0.332 ²	0.055 ³	0.039 ³

Outcome variable in all specifications is 'Separated', clustered on the individual member. Standard Errors in parentheses.

Models include (but do not display) controls for length of permanent service, protected service, MSBS Retention Benefit eligibility, wage system in use, age when hired, and competency stream.

Average length of permanent service for the sample is 16.63 years.

Average age when hired for the sample is 21.21 years.

Average children per family with children is 1.85.

Average children per multi-child family is 2.19.

¹ Represents the p-value for the F-Test that the parameter estimates are equal for two- and three-child families.

² Represents the p-value for the F-Test that the parameter estimates are equal for 2/3- and 4+-child families.

³ Represents the p-value for the F-Test that the parameter estimates are equal for single-child and multiple-child families.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$



Table 22. Table 5 Inclusive Control Variables (Relationship between Separation and (Eldest) Child's Age)

	(1)	(2)	(3)	(4)	(5)	(6)
LoS 10–15 yrs						
LoS <2 yrs	-0.053*** (0.004)	-0.054*** (0.004)	-0.054*** (0.004)	-0.052*** (0.004)	-0.052*** (0.004)	-0.052*** (0.004)
LoS 2–5 yrs	-0.036*** (0.003)	-0.037*** (0.004)	-0.038*** (0.004)	-0.034*** (0.003)	-0.034*** (0.003)	-0.035*** (0.003)
LoS 5–10 yrs	-0.030*** (0.003)	-0.031*** (0.003)	-0.031*** (0.003)	-0.029*** (0.003)	-0.029*** (0.003)	-0.030*** (0.003)
LoS 15–20 yrs	0.026*** (0.005)	0.024*** (0.005)	0.024*** (0.005)	0.023*** (0.005)	0.023*** (0.005)	0.024*** (0.005)
LoS 20–25 yrs	0.024*** (0.005)	0.020*** (0.005)	0.020*** (0.005)	0.019*** (0.005)	0.020*** (0.005)	0.020*** (0.004)
LoS >25 yrs	0.040*** (0.004)	0.037*** (0.004)	0.038*** (0.004)	0.034*** (0.004)	0.035*** (0.004)	0.033*** (0.004)
Protected Service	-0.008* (0.003)	-0.008** (0.003)	-0.008** (0.003)	-0.009** (0.003)	-0.009** (0.003)	-0.009** (0.003)
MSBS	-0.022*** (0.006)	-0.022*** (0.006)	-0.021*** (0.006)	-0.020*** (0.006)	-0.020*** (0.006)	-0.020*** (0.006)
GOPS						
OCS (pre-01 Oct 2009)	0.007** (0.002)	0.009*** (0.002)	0.010*** (0.002)	0.001 (0.002)	0.002 (0.002)	0.002 (0.002)
OAPS (post-03 May 2018)	-0.001 (0.003)	-0.000 (0.003)	-0.001 (0.003)	0.003 (0.003)	0.003 (0.003)	0.003 (0.003)
Hire: 18 or 19 yo	0.000 (.)	0.000 (.)	0.000 (.)	0.000 (.)	0.000 (.)	0.000 (.)
Hire: < 18 yo	0.003 (0.003)	0.003 (0.003)	0.003 (0.003)	0.003 (0.003)	0.003 (0.003)	0.003 (0.003)
Hire: 20–24 yo	0.010*** (0.002)	0.010*** (0.002)	0.010*** (0.002)	0.007** (0.002)	0.007** (0.002)	0.008*** (0.002)
Hire: 25–29 yo	0.019*** (0.004)	0.019*** (0.004)	0.020*** (0.004)	0.018*** (0.004)	0.019*** (0.004)	0.019*** (0.004)
Hire: >30 yo	0.036*** (0.004)	0.035*** (0.004)	0.035*** (0.004)	0.031*** (0.004)	0.032*** (0.004)	0.031*** (0.004)
FWP						
FJP	-0.008** (0.003)	-0.008** (0.003)	-0.009*** (0.003)	-0.009*** (0.003)	-0.010*** (0.003)	-0.010*** (0.003)
ATC	-0.007* (0.003)	-0.007* (0.003)	-0.008* (0.003)	-0.011*** (0.003)	-0.011*** (0.003)	-0.011*** (0.003)
WSO	-0.013** (0.005)	-0.013** (0.005)	-0.014** (0.005)	-0.016*** (0.005)	-0.017*** (0.005)	-0.017*** (0.005)
AMO	-0.020** (0.007)	-0.020** (0.007)	-0.021** (0.007)	-0.020** (0.006)	-0.021*** (0.006)	-0.021*** (0.006)
MPRO	-0.024*** (0.003)	-0.024*** (0.003)	-0.025*** (0.003)	-0.028*** (0.003)	-0.029*** (0.003)	-0.029*** (0.003)
ABM	-0.018*** (0.003)	-0.018*** (0.003)	-0.019*** (0.003)	-0.018*** (0.003)	-0.019*** (0.003)	-0.018*** (0.003)
AEO	-0.032*** (0.006)	-0.032*** (0.006)	-0.034*** (0.006)	-0.031*** (0.006)	-0.032*** (0.006)	-0.032*** (0.006)
Parent	-0.030*** (0.002)	-0.028*** (0.003)	-0.034*** (0.003)	-0.019*** (0.003)	-0.024*** (0.003)	-0.021*** (0.003)
Infant (<18 months)						
Toddler (1.5–4.5 yo)		0.012*** (0.003)	0.014*** (0.003)	0.012*** (0.003)	0.014*** (0.003)	



	(1)	(2)	(3)	(4)	(5)	(6)
Kindergarten (4.5–5.5 yo)		0.025*** (0.007)	0.027*** (0.007)	0.024*** (0.007)	0.026*** (0.007)	
Primary School (5.5–12.5yo)		0.025*** (0.004)	0.027*** (0.004)	0.025*** (0.004)	0.027*** (0.004)	
Jnr Secondary School (12.5–15.5yo)		0.014* (0.006)	0.017** (0.006)	0.014* (0.006)	0.015* (0.006)	
Snr Secondary School (15.5–19yo)		0.020** (0.007)	0.022** (0.007)	0.017* (0.007)	0.018** (0.007)	
Finished School (>19 yo)		0.019*** (0.003)	0.018*** (0.003)	0.021*** (0.003)	0.019*** (0.003)	
Child has started school						0.014*** (0.002)
Single Child Family			0.013*** (0.003)		0.011*** (0.003)	0.009*** (0.003)
Single						
Partnered				-0.024*** (0.004)	-0.024*** (0.004)	-0.023*** (0.004)
Formerly partnered				0.031*** (0.005)	0.031*** (0.005)	0.031*** (0.005)
Partnered serving member						-0.007* (0.003)
Constant	0.063*** (0.004)	0.045*** (0.005)	0.047*** (0.005)	0.055*** (0.006)	0.057*** (0.006)	0.062*** (0.005)
Observations	33185	33185	33185	33185	33185	33185
R-Squared	0.022	0.024	0.024	0.035	0.035	0.035
Young child p-value ¹		0.980	0.993	0.930	0.920	
Young child p-value ²		0.003	0.002	0.003	0.002	
Senior school p-value ³		0.486	0.522	0.678	0.711	
Older child p-value ⁴		0.890	0.578	0.617	0.901	
Marital Status p-value ⁵				0.000	0.000	0.000
School/Parent p-value ⁶						0.000

Outcome variable in all specifications is 'Separated', clustered on the individual member. Standard Errors in parentheses.

Models include (but do not display) controls for length of permanent service, protected service, MSBS Retention Benefit eligibility, wage system in use, age when hired, and competency stream.

Average length of permanent service for the sample is 16.63 years.

Average age when hired for the sample is 21.21 years.

Average age difference between the eldest and youngest child (in multi-child families) is 4.13 years.

¹ Represents the p-value for the F-Test that the parameter estimates are equal for kindergarten and primary school-aged children.

² Represents the p-value for the F-Test that the parameter estimates are equal for toddler and primary school-aged children.

³ Represents the p-value for the F-Test that the parameter estimates are equal for junior secondary school and senior secondary school-aged children.

⁴ Represents the p-value for the F-Test that the parameter estimates are equal for senior secondary school and finished school-aged children.

⁵ Represents the p-value for the F-Test that the parameter estimates are equal for partnered and formerly partnered.

⁶ Represents the p-value for the F-Test that the parameter estimates are equal for parent and child has started school

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$



C. ROBUSTNESS CHECKS

As detailed in Chapter III, there existed two substantial data limitations related to marital status that affected Research Question 1a. Table 23 details additional models that I assessed to check against my findings addressing those limitations on the marital status data. Column 1 repeats my findings. Given that marital status is fixed based on the final observation, Column 2 removes any members who re-entered the Service. Column 3 reports based on members' own reported status. The additional robustness checks support my primary findings that Single members separate at an increased rate compared with partnered members (albeit the degree is not as strong when PMKeyS reported status is tested). Statistically significant evidence was not associated with member-reported PMKeyS status of formerly partnered, potentially as a result of the personal preference nature of the divorce/separated/widowed marital state, when compared with single, coupled with an inability to observe members formerly in a common-law marriage state.

Table 23. Table 3 Alternate Data Fields (Relationship between Separation, Parental Status, and Marital Status)

	Primary Model (1)	Re-entrants Removed (2)	PMKeyS Reported (3)
Parent	-0.022*** (0.003)	-0.021*** (0.002)	-0.027*** (0.003)
Single			
Partnered	-0.023*** (0.004)	-0.024*** (0.004)	-0.012*** (0.004)
Formerly partnered	0.031*** (0.005)	0.033*** (0.005)	-0.013* (0.006)
Partnered serving member	-0.006* (0.003)	-0.005 (0.003)	-0.016*** (0.003)
Constant	0.063*** (0.003)	0.059*** (0.003)	0.066*** (0.003)
Observations	33185	31936	33089
R-Squared	0.034	0.036	0.023
Marital Status p-value ¹	0.000	0.000	0.915

Outcome variable in all specifications is 'Separated', clustered on the individual member. Standard Errors in parentheses.

Models include (but do not display) controls for length of permanent service, protected service, MSBS Retention Benefit eligibility, wage system in use, age when hired, and competency stream.

¹ Represents the p-value for the F-Test that the parameter estimates are equal for Partnered and Formerly Partnered

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$



APPENDIX E: RESEARCH QUESTION 2 (RE-ENTRY BEHAVIORS) SUPPLEMENTARY RESULTS

A. ADDITIONAL MODELS

Table 24. Alternate to Table 6: Youngest Child (Relationship between Re-entry, Parental Status, and Child's Age)

	(1)	(2)	(3)	(4)	(5)
Parent	0.006** (0.002)	-0.002 (0.002)	-0.003 (0.002)	0.004 (0.002)	0.005* (0.002)
Infant (<18 months)					
Toddler (1.5–4.5 yo)		-0.013 (0.013)	-0.013 (0.013)		
Kindergarten (4.5–5.5 yo)		-0.013 (0.014)	-0.013 (0.014)		
Primary School (5.5–12.5yo)		-0.017 (0.011)	-0.017 (0.011)		
Jnr Secondary School (12.5–15.5yo)		-0.017 (0.012)	-0.017 (0.012)		
Snr Secondary School (15.5–19yo)		-0.016 (0.012)	-0.016 (0.012)		
Finished School (>19 yo)		-0.026* (0.011)	-0.026* (0.011)		
Female			-0.008* (0.004)	-0.008* (0.004)	-0.008* (0.004)
Mother			0.007 (0.009)	0.008 (0.009)	0.009 (0.009)
Child has started school				-0.009 (0.005)	
Constant	0.006*** (0.001)	0.033** (0.011)	0.033** (0.011)	0.016** (0.006)	0.007*** (0.002)
Observations	10154	10154	10154	10154	10154
R-Squared	0.016	0.018	0.018	0.017	0.016
Age p-value ¹		0.139	0.147		

Outcome variable in all specifications is 'Re-entered', clustered on the individual member. Standard Errors in parentheses.

Models include (but do not display) controls for length of time out, age when separated, and competency stream.

Average age difference between the eldest and youngest child (in multi-child families) is 4.23 years.

¹ Represents the p-value for the F-Test that the parameter estimates are equal for kindergarten and finished school.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$



Table 25. Alternate to Table 6: Eldest Child and Youngest Child
(Relationship between Re-entry, Parental Status, and Child's Age)

	(1)	(2)	(4)	(5)	(6)
Parent	0.006** (0.002)	-0.000 (0.002)	-0.001 (0.002)	0.004 (0.002)	0.005* (0.002)
(E) Infant (<18 months)					
(E) Toddler (1.5–4.5 yo)		0.004 (0.012)	0.004 (0.012)		
(E) Kindergarten (4.5–5.5 yo)		0.028 (0.019)	0.028 (0.019)		
(E) Primary School (5.5–12.5yo)		0.018 (0.014)	0.019 (0.014)		
(E) Jnr Secondary School (12.5–15.5yo)		0.025 (0.014)	0.026 (0.014)		
(E) Snr Secondary School (15.5–19yo)		0.033* (0.014)	0.033* (0.014)		
(E) Finished School (>19 yo)		0.026* (0.013)	0.026* (0.013)		
(Y) Infant (<18 months)					
(Y) Toddler (1.5–4.5 yo)		-0.019 (0.014)	-0.019 (0.014)		
(Y) Kindergarten (4.5–5.5 yo)		-0.026 (0.018)	-0.026 (0.018)		
(Y) Primary School (5.5–12.5yo)		-0.029* (0.015)	-0.029* (0.014)		
(Y) Jnr Secondary School (12.5–15.5yo)		-0.035* (0.015)	-0.036* (0.015)		
(Y) Snr Secondary School (15.5–19yo)		-0.034* (0.015)	-0.034* (0.015)		
(Y) Finished School (>19 yo)		-0.040** (0.013)	-0.040** (0.013)		
(E) Child has started school				0.019* (0.008)	
(Y) Child has started school				-0.017* (0.007)	
Female			-0.008* (0.004)	-0.008* (0.004)	-0.008* (0.004)
Mother			0.009 (0.009)	0.009 (0.009)	0.009 (0.009)
Constant	0.006*** (0.001)	0.021 (0.011)	0.021 (0.011)	0.005 (0.005)	0.007*** (0.002)
Observations	10154	10154	10154	10154	10154
R-Squared	0.016	0.019	0.019	0.018	0.016
(E) Age p-value ¹		0.898	0.911		
(Y) Age p-value ¹		0.898	0.911		

Table 26. Relationship between Re-entry and Non-Family-Related Co-variates

	(1)	(2)	(3)	(4)
Parent	0.005* (0.002)			
Female	-0.008* (0.004)			
Mother	0.009 (0.009)			
FWP				
FJP		0.025*** (0.005)		0.024*** (0.005)
ATC		0.010*** (0.003)		0.010*** (0.003)
WSO		0.007 (0.005)		0.007 (0.005)
AMO		0.002 (0.003)		0.002 (0.003)
MPRO		0.005 (0.004)		0.005 (0.004)
ABM		0.006 (0.004)		0.005 (0.004)
AEO		0.015 (0.008)		0.015 (0.008)
LoTO <5 yrs				
LoTO 5–10 yrs			-0.006** (0.002)	-0.006** (0.002)
LoTO 10–15 yrs			-0.012*** (0.002)	-0.012*** (0.002)
Constant	0.007*** (0.002)	0.004** (0.001)	0.014*** (0.002)	0.007*** (0.001)
Observations	10154	10154	10154	10154
R-Squared	0.016	0.016	0.014	0.014

Outcome variable in all specifications is 'Separated', clustered on the individual member. Standard Errors in parentheses.

Model 1 includes (but does not display) controls for length of time out, age when separated, and competency stream.

Model 2 includes (but does not display) controls for length of time out, age when separated, parent, and female.

Model 3 includes (but does not display) controls for age when separated, competency stream, parent, and female.

Model 4 includes (but does not display) controls for age when separated, parent, and female.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$



Table 27. Relationship between Re-entry and Length of Time Out

	(1)	(2)	(3)
Length of Time Out (LoTO)	-0.001** (0.000)		
LoTO 0 yrs		0.000 (.)	
LoTO 1 yr		0.013*** (0.003)	
LoTO 2 yrs		0.014*** (0.004)	
LoTO 3 yrs		0.020*** (0.004)	
LoTO 4 yrs		0.012** (0.004)	
LoTO 5 yrs		0.015*** (0.004)	
LoTO 6 yrs		0.010** (0.004)	
LoTO 7 yrs		0.010* (0.004)	
LoTO 8 yrs		0.009* (0.004)	
LoTO 9 yrs		0.004 (0.003)	
LoTO 10 yrs		0.009 (0.005)	
LoTO 11 yrs		0.008 (0.005)	
LoTO 12 yrs		-0.000 (0.001)	
LoTO 13 yrs		-0.000 (0.001)	
LoTO 14 yrs		-0.000 (0.001)	
LoTO 15 yrs		-0.001 (0.001)	
LoTO <5 yrs			0.006** (0.002)
LoTO 5–10 yrs			0.000 (.)
LoTO 10–15 yrs			-0.006** (0.002)
Constant	0.013*** (0.001)	0.000 (0.000)	0.008*** (0.002)
Observations	10194	10194	10194
R-Squared	0.013	0.016	0.014

Outcome variable in all specifications is 'Re-entered', clustered on the individual member. Standard Errors in parentheses.

Models include (but do not display) controls for parental status, whether eldest child has started school, age when separated, and competency stream.

Average length of time out is 7.50 years.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$



B. ALL PARAMETER ESTIMATES

Table 28. Table 6 Inclusive Control Variables (Relationship between Re-entry, Parental Status, and Child's Age)

	(1)	(2)	(3)	(4)	(5)
LoTO 0 yrs					
LoTO 1 yr	0.013*** (0.003)	0.013*** (0.003)	0.013*** (0.003)	0.013*** (0.003)	0.013*** (0.003)
LoTO 2 yrs	0.015*** (0.004)	0.014*** (0.004)	0.014*** (0.004)	0.014*** (0.004)	0.015*** (0.004)
LoTO 3 yrs	0.020*** (0.005)	0.020*** (0.004)	0.020*** (0.004)	0.020*** (0.004)	0.020*** (0.005)
LoTO 4 yrs	0.013*** (0.004)	0.012** (0.004)	0.012** (0.004)	0.012** (0.004)	0.013*** (0.004)
LoTO 5 yrs	0.015*** (0.004)	0.015*** (0.004)	0.015*** (0.004)	0.015*** (0.004)	0.015*** (0.004)
LoTO 6 yrs	0.010** (0.004)	0.010** (0.004)	0.010** (0.004)	0.010** (0.004)	0.010** (0.004)
LoTO 7 yrs	0.010** (0.004)	0.009* (0.004)	0.009* (0.004)	0.009* (0.004)	0.010** (0.004)
LoTO 8 yrs	0.010* (0.004)	0.009* (0.004)	0.009* (0.004)	0.009* (0.004)	0.010* (0.004)
LoTO 9 yrs	0.005 (0.003)	0.004 (0.003)	0.004 (0.003)	0.004 (0.003)	0.005 (0.003)
LoTO 10 yrs	0.010* (0.005)	0.009 (0.005)	0.009 (0.005)	0.009 (0.005)	0.010* (0.005)
LoTO 11 yrs	0.008 (0.005)	0.007 (0.005)	0.007 (0.005)	0.007 (0.005)	0.008 (0.005)
LoTO 12 yrs	0.000 (0.001)	-0.001 (0.001)	-0.001 (0.001)	-0.001 (0.001)	0.000 (0.001)
LoTO 13 yrs	0.000 (0.001)	-0.000 (0.001)	-0.000 (0.001)	-0.001 (0.001)	0.000 (0.001)
LoTO 14 yrs	-0.001 (0.001)	-0.000 (0.002)	-0.000 (0.002)	-0.002 (0.001)	-0.001 (0.001)
LoTO 15 yrs	-0.001 (0.001)	-0.001 (0.002)	-0.001 (0.002)	-0.002 (0.001)	-0.001 (0.001)
Age when separated	-0.000** (0.000)	-0.000* (0.000)	-0.000** (0.000)	-0.000*** (0.000)	-0.000*** (0.000)
FWP					
FJP	0.024*** (0.005)	0.025*** (0.005)	0.025*** (0.005)	0.024*** (0.005)	0.024*** (0.005)
ATC	0.009*** (0.003)	0.009*** (0.003)	0.010*** (0.003)	0.010*** (0.003)	0.010*** (0.003)
WSO	0.006 (0.005)	0.006 (0.005)	0.006 (0.005)	0.006 (0.005)	0.006 (0.005)
AMO	0.002 (0.003)	0.002 (0.003)	0.002 (0.003)	0.002 (0.003)	0.002 (0.003)
MPRO	0.005 (0.003)	0.005 (0.004)	0.005 (0.004)	0.005 (0.004)	0.005 (0.004)
ABM	0.004 (0.004)	0.004 (0.004)	0.005 (0.004)	0.005 (0.004)	0.005 (0.004)
AEO	0.016* (0.007)	0.016* (0.007)	0.016* (0.007)	0.016* (0.007)	0.016* (0.008)
Parent					



	(1)	(2)	(3)	(4)	(5)
Infant (<18 months)		0.000 (.)	0.000 (.)		
Toddler (1.5–4.5 yo)		0.000 (0.011)	0.000 (0.011)		
Kindergarten (4.5–5.5 yo)		0.020 (0.016)	0.020 (0.016)		
Primary School (5.5–12.5yo)		0.007 (0.010)	0.007 (0.010)		
Jnr Secondary School (12.5–15.5yo)		0.011 (0.011)	0.011 (0.011)		
Snr Secondary School (15.5–19yo)		0.017 (0.011)	0.017 (0.011)		
Finished School (>19 yo)		0.005 (0.010)	0.005 (0.010)		
Female			-0.006* (0.003)	-0.007* (0.003)	-0.006* (0.003)
Mother			0.006 (0.008)	0.007 (0.008)	0.007 (0.008)
Child has started school				0.009 (0.005)	
Constant	0.001 (0.004)	-0.005 (0.010)	-0.004 (0.010)	-0.005 (0.006)	0.002 (0.004)
Observations	10154	10154	10154	10154	10154
R-Squared	0.012	0.013	0.013	0.012	0.012
Age p-value ¹		0.238	0.246		

Outcome variable in all specifications is 'Re-entered', clustered on the individual member. Standard Errors in parentheses.

Models include (but do not display) controls for length of time out, age when separated, and competency stream.

Average length of time out for the sample is 6.99 years.

Average age when separated for the sample is 40.36 years.

Average age difference between the eldest and youngest child (in multi-child families) is 4.23 years.

¹ Represents the p-value for the F-Test that the parameter estimates are equal for kindergarten and finished school.



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