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Identifying psychological outcomes in families of Five Eyes alliance armed forces Veterans: A systematic review

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ABSTRACT

Introduction: The psychological effects of military service and lifestyle are not confined to individual service members, as there are also potential consequences for the mental health and well-being of military family members. Adult children and intimate partners of ex-service members can share this risk but may be overlooked both as potential research populations and in the planning of policy and outreach/treatment programs. This systematic review aimed to identify the psychological health outcomes of partners and adult children of ex-service members in Five Eyes alliance countries: Australia, Canada, New Zealand, United Kingdom, and the United States. **Methods:** Search protocols were used in aggregate databases and related journals for peer-reviewed literature. A total of 24 studies met inclusion criteria (N = 18 quantitative, N = 6 qualitative). Quantitative studies were summarized by narrative synthesis and qualitative data was analyzed using a descriptive-interpretive approach. **Results:** Intimate partners had higher prevalence rates of anxiety, depression, and posttraumatic stress disorder (PTSD) than population norms and were more likely to suffer distress because of the Veteran's mental health issues. Adult children were at increased risk for anxiety, depression, alcohol/substance misuse, and PTSD compared to population norms. Four themes were identified from the qualitative data: personal feelings and internal emotions, Veteran-oriented, help and support, and acting as a unit. **Discussion:** There are substantial gaps in the literature regarding the mental health and well-being of intimate partners and adult children of ex-service members in Five Eyes alliance countries. Future research is needed to address psychological outcomes among families after leaving the military.

Key words: adult children, Australia, Canada, Five Eyes, Military, military family, mental health, New Zealand, PTSD, psychological outcomes, Veterans, United Kingdom, U.S.

RÉSUMÉ

Introduction : Les effets psychologiques du service et du mode de vie militaires ne se limitent pas aux militaires eux-mêmes, mais peuvent avoir des conséquences sur la santé mentale et le bien-être des membres de leur famille. Les enfants adultes et les partenaires intimes d'anciens militaires peuvent partager ce risque, mais peuvent être oubliés à la fois à titre de populations de recherche potentielles et lors de la planification des politiques et des programmes de diffusion et de traitement. Cette analyse systématique visait à déterminer la santé psychologique des partenaires et des enfants adultes d'anciens militaires dans les pays de l'alliance *Five Eyes* : l'Australie, le Canada, la Nouvelle-Zélande, le Royaume-Uni et les États-Unis. **Méthodologie :** Les chercheurs ont utilisé des protocoles de recherche pour regrouper les éléments de bases de données et de revues connexes afin d'extraire les publications révisées par un comité de lecture. Au total, 24 études respectaient les critères d'inclusion (n = 18 quantitatives, n = 6 qualitatives). Les chercheurs ont résumé les études quantitatives par des synthèses narratives et ont analysé les données qualitatives par une approche de description-interprétation. **Résultats :** Les partenaires intimes présentaient un plus fort taux d'anxiété, de dépression et de trouble de stress post-traumatique (TSPT) que l'ensemble de la population et étaient plus susceptibles de souffrir de détresse à cause des problèmes de santé mentale des vétérane(s). Les enfants adultes étaient plus à risque d'anxiété, de dépression, de mésusage d'alcool et de substances psychoactives et de TSPT que l'ensemble de la population. Les

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chercheurs ont dégagé quatre thèmes des données qualitatives : les sentiments personnels et les émotions internes, l'orientation vers les vétérans, l'aide et le soutien et le fait d'agir comme une unité. **Discussion :** Les chercheurs constatent des lacunes importantes dans les publications sur la santé mentale et le bien-être des partenaires intimes et des enfants adultes d'anciens membres du service militaire des pays de l'alliance *Five Eyes*. D'autres recherches devront être réalisées pour approfondir la situation psychologique des familles après le passage à la vie civile.

Mots-clés : Australie, Canada, enfants adultes, E.-U., famille des militaires, *Five Eyes*, militaire, Nouvelle-Zélande, résultats psychologiques, Royaume-Uni, santé mentale, TSPT, vétéran(e)s

LAY SUMMARY

Military service can affect the psychological health and well-being of ex-service members and their families. Most research prioritizes active duty families or Veterans, with spouses/intimate partners and adult children of Veterans often overlooked. This study reviewed all previous research on the psychological health of Veteran families within the Five Eyes alliance countries of Australia, Canada, New Zealand, the United Kingdom, and the United States. It found spouses/intimate partners had higher rates of anxiety, depression, and posttraumatic stress disorder (PTSD) compared to national rates and were more likely to feel distress when their Veteran partner had mental health issues. Adult children were at higher risk for anxiety, depression, alcohol/substance misuse, and PTSD compared to national rates. Four themes identified were: personal feelings and internal emotions, Veteran-oriented, help and support, and acting as a unit. Due to the scarce available research, further studies are needed to address psychological outcomes among military Veteran families.

INTRODUCTION

Military service and armed conflict can have adverse effects on some service members and family members proximal to them.¹⁻⁶ Indeed, when an ex-service member experiences an adverse mental health outcome such as posttraumatic stress disorder (PTSD), their intimate partners and children are at risk for secondary traumatization.⁷⁻⁸ Decades of research have recognized the considerable public health implications of increased risk for Veterans' family members.⁹⁻¹¹ However, research focused on ex-service members' intimate partners is far less prevalent than research examining ex-service personnel, while research examining military-connected children is often in a developmental context^{10,12} or focused on childhood/adolescence,¹³⁻¹⁴ leaving aside psychological outcomes in now-adult children. Furthermore, the literature is skewed towards active duty service members and their families, with fewer studies examining these populations after they transition out of the armed forces.^{11,15} As active duty service members have full access to military support/resources in a military system, and Veterans must make use of civilian resources and public support systems, the two populations differ significantly.

The Five Eyes alliance is an organization of member countries party to the United Kingdom-United States of America Agreement (UKUSA) intelligence treaty. The combined military population of these countries is estimated at 2.6 million.¹⁶ The addition of family members significantly increases population size and results in a substantial population who are potentially at risk. This population is estimated at 1,596,169 in the United

States¹⁷ and 99,716 in Canada.¹⁸ Stigma surrounding mental health issues and help-seeking is endemic in military culture,¹⁹ introducing additional barriers to care and treatment for those in distress. An individual serving their country should be afforded all due care and the same must apply to partners and children, who often have little choice in the nature of their family member's military service, including deployments.

Research into the mental health and well-being of intimate partners of serving and ex-serving military personnel has concentrated on their higher levels of secondary traumatization/PTSD,^{5,7,20} caregiver burden,²¹⁻²⁴ and adverse mental health outcomes,^{6,25-27} including alcohol/substance misuse.²⁸⁻²⁹ These studies have shown a spectrum of effects and effect intensity as a result of the intimate partner's association with their service member partner and exposure to the military lifestyle. These studies highlight the intimate partner carries the burden of not only caring for their spouse and family, but also balancing self-care.³⁰ This population has unique service needs and barriers to accessing help, primarily stigma in the military community among service members^{19,31} and intimate partners.^{25,32}

Studies examining the effects of a military parent on a child population have focused on behavioural/psychological impact in young children,^{15,33-35} in middle children and adolescents,³⁶⁻³⁸ and on the family as a unit.³⁹⁻⁴⁰ A body of literature exists on the transgenerational transmission of trauma from the Veteran to the child,^{8,41} though from an interactional and not epigenetic perspective. Research interest in academic and mental

health outcomes in childhood/adolescence is high for this population but less literature exists on the ongoing challenges children of Veterans may face after 18 years of age and throughout adulthood.¹¹ Research focusing on adult children of Veterans could identify if being a military-connected child carries increased risks for specific psychological outcomes, which could be incorporated into early intervention programs. With the children of Veterans of contemporary conflicts beginning to reach this age, it is imperative future research focuses on this group to ensure their unique service needs are met.

The aim of this systematic review was to explore the existing literature to understand the body of research on intimate partners and adult children of Veterans to identify gaps and inform future research. This review centred on countries of the Five Eyes alliance due to a common language, similar military involvement/deployment patterns, and similarities in society and culture. It described associations between military service and family member psychological health (anxiety, depression, alcohol/substance misuse, and PTSD) using a narrative synthesis approach for quantitative data and a meta-synthesis for qualitative data.

METHODS

Protocol

A detailed protocol was written explaining the review methods, questions, context, definitions, search strategy, inclusion/exclusion criteria, quality appraisal, data extraction and synthesis. This protocol was submitted to PROSPERO (the International Prospective Register of Systematic Reviews), an online database of systematic review protocols submitted prospectively to maintain researcher integrity. The protocol was approved under the registration CRD42020221166 (available at www.crd.york.ac.uk/prospero/display_record.php?ID=CRD42020221166).

Search strategy

The electronic databases of MEDLINE, PsychINFO, EMBASE, EBSCO, Informit, PILOTS (now PTSD-pubs), and Web of Science were identified as viable resources and searched in November 2020. Search strings were designed and run sequentially to specify: 1) a military context, 2) the populations of interest, 3) adverse mental health outcomes and, 4) general/positive mental health outcomes (see [Appendix 1](#)).

Specific military-related journals were also searched, including *BMJ Military Health*, *Military Medicine*,

Military Behavioural Health, *Armed Forces and Society*, and the *Journal of Military, Veteran and Family Health*, as well as the reference sections of identified papers. These searches were conducted in compliance with Joanna Briggs Institute guidelines.⁴²

Population definitions

The target population was individuals belonging to military families in the Five Eyes alliance countries in which the service member was considered a Veteran, ex-service member, or retired. Military Veterans/ex-service members were defined as those who had served at least one day full-time in the armed forces and were now no longer serving and who may or may not have been deployed in combat or peacekeeping roles and excluded those who only served as reservists. Family members included current and past intimate partners (married or unmarried; hereafter partners) and adult children (≥ 18 years), biologically related to the ex-service member or not, of ex-serving military members. Parents, siblings, and children of ex-service members < 18 years were excluded.

Study selection criteria

Study inclusion criteria were:

- full or partial population of current/past partners of Veterans, adult children of Veterans, or a family unit including both
- population from a Five Eyes alliance country
- estimates of psychological/mental health outcomes defined as PTSD, anxiety, depression, alcohol/substance misuse, risk, and/or resilience
- publication in a peer-reviewed journal
- publication in English
- publication between the years 2000 and 2020 (inclusive)

Studies were excluded if they did not fit the inclusion criteria, publication occurred before the year 2000 or after 2020, they evaluated interventions, they reviewed military policy/treatment programs, they used samples containing the target population (partners and adult children) and excluded individuals (Veterans, active duty family members, other family) without delineation of group differences in the results, and they measured outcomes only in the Veteran. Academic publications were prioritized over government/third party reports due to accessibility/availability issues.

Source selection was performed by two reviewers, with blinded title and abstract screening followed by full-text screening. A third reviewer was involved in

case of disagreements. The process was piloted prior to undertaking full screening, with a random sample of 25 sources selected, and full-text screening occurring after 75% agreement. Search results were exported to Endnote for evaluation and Covidence for screening. A total of 29,341 results were sourced from the initial search, 84 results qualified for full-text screening and 24 studies met criteria for inclusion (Figure 1, Table 1).

Data extraction

Data extracted from each study included: authors, year of publication, population/sample size and type, study design, study focus, and findings (Table 1). Data extracted for analysis included (when available): journal title, study title, country of origin, conflict, response rate, gender totals, age range/mean, armed forces branch, last known rank of ex-service member, and time in service

Figure 1. PRISMA flow diagram, adapted from Moher et al., 2009; *(n = 49 non 5-E country, n = 1 child population < 18, n = 1 active duty, n = 4 mixed sample, n = 5 reviews)

of ex-service member. A 10% check was performed on the data with a third reviewer available in the event of disagreement.

Quality appraisal

A quality appraisal tool adapted from The Quality Assessment Tool for Observational Cohort and Cross-Sectional Studies⁴³ (see [Appendix 2](#)) was used to evaluate included studies.

Data synthesis strategy

Both quantitative and qualitative articles were included. A narrative synthesis was selected for the quantitative findings. This word-based technique summarizes results from multiple studies where differences in methodology preclude a more traditional meta-analysis and uses narrative to describe the findings of multiple studies as an aggregate synthesis.⁴⁴ While this method has been criticized for lacking transparency,^{45(p.7)} applying a rigorous framework of narrative synthesis in an analysis increases replicability⁴⁶⁻⁴⁷ and is well suited to identify the landscape of the extant literature.⁴⁸

A meta-synthesis was selected to analyze the qualitative findings, specifically a descriptive-interpretive approach⁴⁹⁻⁵⁰ due to its flexible accommodation of multiple analytic styles. This process involves categorizing the data by domains, nominating an evaluation metric of meaning units, evaluating data based on these units, forming emergent categories, and synthesizing findings.⁵⁰ As interpretive phenomenological analysis (N = 3), thematic analysis (N = 2), and grounded theory (N = 1) were represented, the descriptive-interpretive approach provided a framework for synthesizing both descriptive and interpretive results within a larger work, tailoring the analysis for the review's goals and aims.⁵¹

RESULTS

General findings

The 24 studies reviewed ([Table 1](#)) detailed research in Australia (N = 12), the U.S. (N = 8), Canada (N = 2), and the UK (N = 2). Samples ranged from 3-1,966 and were predominantly female, with 13 studies reporting a completely female population and 11 reporting at least > 50% female. Two did not report gender. Partner ages ranged from 21-83 years (Mean 50.10 years) and adult child ages ranged from 18-60 (Mean 37.76 years). Conflict was reported in 15 studies (N = 14, Vietnam, N = 1, post-9/11 conflicts). Military service branch of ex-serving members was reported in nine studies

(N = 3, navy/army/air force, N = 5, army, N = 1, army/air force), with three studies reporting Veteran rank, all at > 80% enlisted. Time in service of ex-serving members was noted in two studies (N = 1, 54% served > 2 years, N = 1, from 2-38 years) and time since separation from service of ex-serving members was recorded in only one study (> 10 years).

Narrative analysis of quantitative studies

Quantitative studies (N = 18) were assessed by study population (partners: N = 12, children: N = 6) and psychological outcome. Depression was the most frequently examined (N = 11), followed by anxiety (N = 9), general distress (N = 8), alcohol/substance misuse (N = 6), and PTSD (N = 5). Multiple scales and indices were used to assess the psychological outcomes and details can be found in the supplementary materials.

Partners of Veterans

Most of the partner studies focused on partners of Veterans with PTSD and the secondary effects of the disorder on the partner. Campbell and Renshaw (United States),⁵² MacDonell et al. (Australia),⁵³ and Manguno-Mire et al. (United States)⁵⁴ focused on the relationship between Veteran PTSD and partner distress. Conflict-specific Veteran communication increased partner distress only when Veteran PTSD was at/surpassed the clinical threshold.⁵² Veteran PTSD had a positive association with partner distress, impacting dyadic adjustment, life satisfaction,⁵³ and caregiver burden.⁵⁴

Several studies covered multiple psychological outcomes in Australian partner populations as compared to national prevalence rates. MacDonell, Bhullar, and Thorsteinsson (Australia)⁵⁵ examined anxiety, depression, and stress in four samples of military partners, with partners of ex-service members showing mean scores for anxiety ($g = 0.79$), depression ($g = 0.66$), and stress ($g = 0.80$) far more than population norms. O'Toole et al. (Australia)⁵⁶ found higher prevalence rates of 11 out of 17 psychopathologies in a partner sample, with generalized anxiety disorder associated with Veteran suicidal ideation and severe single-episode and moderate recurrent depression associated with combat-related Veteran PTSD and battle casualty, respectively. Veteran PTSD was also uniquely predictive of suicidality for both Veterans and their partners.⁵⁷

Exploring psychopathology and help-seeking beliefs in partners of Veterans, Murphy, Palmer, and Busuttill (United Kingdom)⁵⁸ found 45% of partners reached the clinical threshold for alcohol misuse, 39% for depression,

Table 1. Study details and data extracted from studies which met inclusion criteria for review

Authors	Study title	Journal	Country	Conflict	Response rate	Gender totals	Age range or Mean*	Branch	Rank	Time In Service†
Alessi, Ray, Ray, & Stewart (2001)	Personality and psychopathology profiles of Veteran's wives: Measuring distress using the MMPI-2	<i>Journal of Clinical Psychology</i>	United States			100% female	Mean = 50.3			
Beks (2016)	Walking on eggshells: The lived experience of partners of Veterans with PTSD	<i>The Qualitative Report</i>	Canada			100% female				
Calhoun, Beckham, & Bosworth (2002)	Caregiver burden and psychological distress in partners of Veterans with chronic posttraumatic stress disorder	<i>Journal of traumatic stress</i>	United States	Vietnam			PTSD MEAN = 47.5 (SD = 5.2) non-PTSD MEAN = 46.3 (SD = 6)			
Campbell & Renshaw (2012)†	Distress in spouses of Vietnam Veterans: Associations with communication about deployment experiences	<i>Journal of Family Psychology</i>	United States	Vietnam		80% female, 20% male	21-73 MEAN = 40, (SD = 7.4)			
Cramm, Norris, Schwartz, Tam-Seto, Williams, & Mahar (2020)	Impact of Canadian Armed Forces Veterans' mental health problems on the family during the military to civilian transition	<i>Military Behavioral Health</i>	Canada							
Forest, Edwards, & Daraganova (2018)	The intergenerational consequences of war: Anxiety, depression, suicidality, and mental health among the children of war Veterans	<i>International Journal of Epidemiology</i>	Australia	Vietnam		62% female, 38% male	MEAN = 37.2			
Gunter, O'Toole, Dadds, & Catts (2020)	Family emotional climate in childhood and risk of PTSD in adult children of Australian Vietnam Veterans	<i>Psychiatry Research</i>	Australia	Vietnam	56%	58% female, 42% male	F = 20-60 (MEAN = 38.1), Male = 24-56 (MEAN = 38.5)			
Johnson, Vidal, & Flavius (2018)	Absence of a link between childhood parental military service on depression and anxiety disorders among college students	<i>Military Medicine</i>	United States			80% female, 19% male, 1% transgender	> 18			
Lee, O'Neill, Denning, Mohr, & Hammer (2020)	A dyadic examination of drinking behaviors within military-connected couples	<i>Military Behavioral Health</i>	United States	Post-9/11	66.5%	89% female, 11% male	MEAN = 36.6 (SD = 9.06)		89.1% enlisted	

(Continued)

Table 1. (Continued)

Authors	Study title	Journal	Country	Conflict	Response rate	Gender totals	Age range or Mean	Branch	Rank	Time In Service†
MacDonell, Thorsteinsson, Bhullar, & Hine (2014)	Psychological functioning of partners of Australian combat Veterans: Contribution of Veterans' PTSD symptoms and partners' caregiving distress	<i>Australian Psychologist</i>	Australia	Vietnam (minor percent others)		100% female	43-83, MEAN = 63.89, SD = 4.96	84% army, 10% air force, 5% navy, 1% other		54 % < 2
MacDonell, Bhullar, & Thorsteinsson (2016)	Depression, anxiety, and stress in partners of Australian combat Veterans and military personnel: A comparison with Australian population norms	<i>PeerJ</i>	Australia	Vietnam (minor percent others)		100% female	43-83, MEAN = 60.79 (SD = 5.05)	82% army, 12% air force, 6% navy		
Mangun-Mire, Sautter, Lyons, Myers, Perry, Sherman, Glynn, & Sullivan (2007)	Psychological distress and burden among female partners of combat veterans with PTSD	<i>Journal of Nervous and Mental Disorders</i>	United States		89%	100% female	MEAN = 52 (SD = 5.8)			
McCormack, Hagger, & Joseph (2011)	Vicarious growth in wives of Vietnam Veterans: A phenomenological investigation into decades of "lived" experience	<i>Journal of Humanistic Psychology</i>	Australia	Vietnam		100% female	56-65			
McCormack & Sly (2013)	Distress and growth: The subjective "lived" experiences of being the child of a Vietnam Veteran	<i>Traumatology</i>	Australia	Vietnam		100% female	28-37			
Moriarty, Winter, Short, & True (2018)	Exploration of factors related to depressive symptomatology in family members of military Veterans with traumatic brain injury	<i>Journal of Family Nursing</i>	United States				21-67			
Murphy, Palmer, & Busuttill (2016)	Mental health difficulties and help-seeking beliefs within a sample of female partners of UK Veterans diagnosed with post-traumatic stress disorder	<i>Journal of Clinical Medicine</i>	United Kingdom			100% female	MEAN = 46	84% army, 8% air force, 8% navy	7% officer	
Murphy, Palmer, Hill, Ashwick, & Busuttill (2017)	Living alongside military PTSD: a qualitative study of female partners' experiences with UK Veterans	<i>Journal of Military, Veteran and Family Health</i>	United Kingdom			100% female	30-79	87.5% army, 12.5% air force		2-38 (MEAN = 11.25)

(Continued)

Table 1. (Continued)

Authors	Study title	Journal	Country	Conflict	Response rate	Gender totals	Age range or Mean [*]	Branch	Rank	Time In Service [†]
O'Toole, Outram, Catts, & Piers (2010)	The mental health of partners of Australian Vietnam Veterans three decades after the war and its relation to Veteran military service, combat, and PTSD	<i>Journal of Nervous & Mental Disease</i>	Australia	Vietnam	64.9%	100% female	MEAN = 57.8 (SD = 7.8)	100% army		
O'Toole, Orreall-Scarborough, Johnston, Catts, & Outram (2015)	Suicidality in Australian Vietnam Veterans and their partners	<i>Journal of Psychiatric Research</i>	Australia	Vietnam	64.9%	100% female	MEAN = 57.8 (SD = 7.8)	100% army		
O'Toole, Burton, Rothwell, Outram, Dadds, & Catts (2016)	Intergenerational transmission of post-traumatic stress disorder in Australian Vietnam veterans' families	<i>Acta Psychiatrica Scandinavica</i>	Australia	Vietnam		57% female, 43% male	20-60, MEAN = 38.37 (SD = 6.41)	100% army		
O'Toole, Dadds, Burton, Rothwell, & Catts (2018)	Growing up with a father with PTSD: The family emotional climate of the children of Australian Vietnam Veterans	<i>Psychiatry Research</i>	Australia	Vietnam		57% female, 43% male	20-60, MEAN = 38.37 (SD = 6.41)	100% army		
O'Toole, Dadds, Outram, & Catts (2018)	The mental health of sons and daughters of Australian Vietnam Veterans	<i>International Journal of Epidemiology</i>	Australia	Vietnam		57% female, 43% male	20-60, MEAN = 38.37 (SD = 6.41)	100% army		
Outram, Hansen, MacDonell, Cockburn, & Adams (2009)	Still living in a war zone: Perceived health and wellbeing of partners of Vietnam Veterans attending partners' support groups in New South Wales, Australia	<i>Australian Psychologist</i>	Australia	Vietnam		100% female	47.5-72.4 (MEAN = 57.3)			
Saban, Mathews, Collins, Hogan, Tell, Bryant, Pape, Griffin, & Janusek (2016)	The man I once knew: Grief and inflammation in female partners of Veterans with traumatic brain injury	<i>Biological Research for Nursing</i>	United States			100% female	MEAN = 42.84 (SD = 15.36)			

Notes:

^{*} unit is in years.[†] study also listed time since separation as > 10 years.

37% for generalized anxiety disorder, and 17% for PTSD symptomology, with the clinical population more likely to report barriers to care, and more likely to associate those barriers with stigmatizing beliefs.

Lee et al. (United States)⁵⁹ examined problem drinking in Veterans and partners, noting the knowledge gap regarding alcohol misuse in separated service members/partners with a sample comprised of 82% Veterans and 18% reservists/civilian-assigned National Guard and their spouses, finding higher levels of drinking behaviour by either member of the couple independently influenced the other's hazardous drinking behaviour.

Four studies described non-significant findings. Alessi et al. (United States)⁶⁰ found higher levels of anxiety and depression in wives of Veterans compared to a married female control but not at a significant level. While Calhoun, Beckham, and Bosworth (United States)²² found partners caring for Veterans with PTSD experienced higher rates of mental illnesses than partners of non-PTSD Veterans, there was no independent association between Veteran PTSD and partner depression or anxiety. Moriarty et al. (United States)⁶¹ found depression in Veteran family members significantly higher when caring for a Veteran with PTSD, but there was no significant difference in depression between partners and other family members. Saban et al. (United States)⁶² examined depression as a mediator in the association of grief on inflammation in female partners caring for Veterans with a traumatic brain injury, but depressive symptomology did not mediate the effects of anger/blame on inflammation.

Adult children of Veterans

Three studies focused on PTSD risk among the adult children of Australian Vietnam Veterans, either because of childhood family emotional climate⁶³ or intergenerational transmission of trauma.⁶⁴⁻⁶⁶ Gunter et al. (Australia)⁶³ found paternal attachment associated with PTSD, anxiety, and depression in adult daughters and maternal attachment associated with PTSD and depression in all offspring, and with anxiety in daughters. O'Toole et al. (Australia)⁶⁴ found Veteran PTSD was associated with PTSD risk in adult children and a gendered effect whereby Veteran depression influenced PTSD risk in males, and Veteran alcohol misuse influenced alcohol misuse in males and PTSD risk in females (but not after controlling for Veteran PTSD). O'Toole et al. (Australia)⁶⁵ included the effect of PTSD on mental health in this population, finding it associated with increased trauma exposure and higher rates of anxiety,

depression, alcohol/substance misuse, and PTSD. Veteran PTSD was also strongly associated with the other psychological outcomes in adult children. O'Toole et al. (Australia)⁶⁶ also examined the impact of a Veteran parent with PTSD and family emotional climate on adult children, but from a context of positive/negative attachment impact on adult child distress by PTSD symptom rather than aggregate disorder, finding Veteran PTSD and depression associated with a significant, negative effect on family emotional climate, with daughters particularly affected.

Forrest, Edwards, and Daraganova (Australia)⁶⁷ looked at specific psychopathologies and overall mental health in adult children of deployed Veterans compared to children of non-deployed Veterans, finding higher likelihood of anxiety (OR = 1.54, CI = 1.04, 2.28), depression (OR = 1.77, CI = 1.03, 3.05), and poorer mental health (B = -5.08, CI = -6.60, -3.56), in addition to higher likelihood of suicide/self-harm (OR = 2.39, CI = 1.57, 3.65) and suicidal plan (OR = 3.52, CI = 1.40, 8.85) among the former.

One study concerning this population was non-significant: Johnson, Vidal, and Lilly (United States)⁶⁸ examined anxiety and depression in a college-aged sample, finding children of Veterans did not differ in anxiety prevalence compared to a normative sample and, while a Veteran parent was positively correlated with child depression, significance was not reached after controlling for child demographic factors.

Meta-synthesis of qualitative findings

Data collection for qualitative studies (N = 6, Table 1) included semi-structured interviews (Australia, United Kingdom),^{69,71} focus groups (Australia, Canada)⁷²⁻⁷³ and harvesting opportunistic data from an Internet forum (Canada).⁷⁴ These studies focused almost exclusively on partners (N = 4) or the family unit (N = 1) with only one study⁷⁰ describing the experiences of adult children, a sample of three siblings. These studies were largely focused on the experiences of family members as they related to a Veteran with PTSD. Four meta-synthesis themes were identified: personal feelings and internal emotions referencing individual internal thoughts and self-referential emotions, Veteran-oriented focusing exclusively on the Veteran, help and support describing help/support seeking, desires, and barriers, and acting as a unit referring to a shared environment, either as a dyad or a family unit (Figure 2; Note: Theme names capitalized at all levels in-text).

Personal feelings and internal emotions	Veteran-oriented
<ul style="list-style-type: none"> - alone¹ - living with distress of vicarious trauma³ - vicarious growth*³ - making meaning of dual complex trauma⁴ - fragile intimate self*⁴ - growthful forgiveness and self-care*⁴ - physical health⁶ - mental health⁶ - altered sense of self⁶ - search for explanation⁶ 	<ul style="list-style-type: none"> - all-consuming effects of the illness¹ - walking on eggshells¹ - ambiguous loss¹ - betrayal and neglect*⁴ - like father, like daughter*⁴ - challenges faced*⁵ - like living in a war zone⁶ - wife as carer⁶
Help & support	Acting as a unit
<ul style="list-style-type: none"> - desired type of support*⁵ - barriers to support*⁵ - sources of help: the veteran family⁶ 	<ul style="list-style-type: none"> - facing PTSD as a unit¹ - veteran's mental health problems created multifaceted/pervasive changes in family structure, roles, and routines, impacting caregiving/social participation² - changes created negative mental health and well-being impacts for family members²

Figure 2. Study themes by meta-synthesis theme

¹ Beks, 2016; ² Cramm et al., 2020; ³ McCormack, Hagger, & Joseph, 2011; ⁴ McCormack & Sly, 2013; ⁵ Murphy et al., 2017; ⁶ Outram et al., 2009; *includes subordinate themes

Personal feelings and internal emotions

Partners of Veterans with PTSD described feeling Alone,⁷⁴ isolated from their partner and society, with their physical/mental health adversely impacted by the Veteran's PTSD. They described an Altered Sense of Self defined by loss of self, life experiences, and isolation.⁷² Partners described secondary traumatization as Living with Distress of Vicarious Trauma and reported adapting to how their partner and life had changed.⁶⁹ They referred to this process as a Search for Explanation into their partner's suffering and how they could understand it.⁷² Some partners took meaning from the experience, describing a journey of Vicarious Growth, including describing development of Humble Acceptance, Love, Gratitude, Empathy, and Personal Strength.⁶⁹

The adult children⁷⁰ expressed a similar path with the over-arching theme of Making Meaning of Dual Complex Trauma, encompassing distress of a Fragile Intimate Self, a Weak Sense of Self, Shame and Self-blame, Abusive Adult Relationships, and Burden of Responsibility. Of note, partners and adult children both described the effects of veteran PTSD on their own sense of self; partners phrased this effect as a change to something fundamental to themselves, while the adult

children described this effect as a foundational damage to their sense of self that corresponded to lasting consequences. These individuals also explored the experience of healing as Growthful Forgiveness and Self-Care, described by subordinate themes of Meaning Making and Acceptance, Forgiveness, Rejecting Rejection, and Doing It Differently.⁷⁰

Veteran-Oriented focus

Partners described the effects of PTSD on their relationships with their Veteran partners, explaining how the overwhelming impact of caring for their partners and managing other aspects of life stemmed from the All-consuming Effects of the Illness,⁷⁴ and led to feeling Ambiguous Loss regarding the Veteran's former self⁷⁴ and the unwelcome feelings of burden the changing role to a Wife as Carer could generate.⁷² Unpredictable and volatile behaviour among Veterans was reported to create an environment of tension and fear, described as Walking on Eggshells⁷⁴ and Like Living in a War Zone.⁷² The Challenges Faced in these relationships were described by some partners as leading to Inequality in Relationship, Loss of Congruence with Own Identity, Volatile Environment, and Emotional Distress and Isolation.⁷¹

Adult children explained the negative impact on childhood with a Veteran parent, feeling Betrayal and Neglect, assessing themselves as unworthy of their father's attention/affection while he was perceived to vacillate between neglectful absence (Absent Father), abuse (Not Good Enough), and attempts to be a good father (Good Dad/Bad Dad). They described their own secondary traumatization as Like Father, Like Daughter, including Self-Medication, Learning to Be on Alert, and being Denied the Right to Feel,⁷⁰ conveying their perception that their childhood had recreated them in the image of their father.

Help and support

This theme was identified from two studies, both focused on partners. In Murphy et al. (United Kingdom),⁷¹ partners described their Desired Type of Support, which included Practical Focus on Improving, Sharing with Fellow Experts, and Care Tailored to the Partner. Barriers to Support included Feeling Restricted by Practical Barriers and Ambivalence About Involvement of Others. The value of applicable support was highlighted in Outram et al. (Australia),⁷² where the theme Sources of Help: The Veteran Family was identified as partners explained the connection and relief they felt when talking to others from within the military community in the same situation.

Acting as a unit

Facing PTSD as a Unit was identified as a theme encapsulating the partner's commitment to the Veteran and the relationship, externalizing PTSD as a "third entity" to be fought.^{74(p. 9)} Cramm et al. (Canada)⁷³ focused on the family unit, with participants reporting that "Veteran's mental health problems created multifaceted changes in family structure, roles, and routines, impacting caregiving/social participation,"^{73(p. 4)} conceptualizing the impact on a systemic level with multiple individuals affected in multiple ways. These "changes created negative mental health and well-being impacts for family members"^{73(p. 4)} by reciprocal processes between the Veteran, the individual, and the family unit. This theme was present in both partner- and adult-child-focused studies.⁷³⁻⁷⁴

DISCUSSION

This review was conducted to highlight and potentially fill extant gaps in literature concerning the mental health outcomes of partners and adult children of ex-service members in Five Eyes alliance countries.

Ultimately, only 24 studies met the inclusion criteria, exposing the under-representation of this population in previous research, but also flagging the potential for future studies.

Half of the studies reviewed (N = 12) were Australian and all focused on family members of Vietnam Veterans, specifically the relationships between Veteran PTSD and mental health outcomes in partners^{53,55,56,69,72}/adult children,^{57,63-67,70} with the quantitative studies examining the prevalence of psychopathologies in these populations compared to other military sub-groups and national prevalence rates. Qualitative studies were very much family focused, exploring the experience of living with a Veteran's PTSD and effects on the entire family, both positive and negative. Findings indicated higher rates of difficulties in partners/adult children as a function of the Veteran's PTSD as compared to national prevalence rates and/or other sub-groups, with family-centric adaptation and support described in the qualitative findings.

All U.S. studies (N = 8) were quantitative, all but one focused on the partner, and five featured non-significant minor/main results.^{22,60-62,68} The remaining three studies examined the association between Veteran PTSD and partner distress,^{52,54} and reciprocal hazardous drinking in a Veteran/partner dyad.⁵⁹ The U.S. findings reinforced the relationship between Veteran PTSD/mental health issues and partner distress/psychopathology, centring on the effects of PTSD and secondary trauma on the couple from both psychological and practical viewpoints. It is worth noting that only two U.S. studies used a Vietnam Veteran cohort versus 12 Australian studies despite a Vietnam involvement of approximately 2.7 million troops compared to Australia's 50,000;⁷⁵⁻⁷⁶ this contrast may be due to differing cultural views of the Vietnam conflict.

The Canadian studies (N = 2) were qualitative explorations of partner⁷⁴ and family unit⁷³ experience of the Veteran's PTSD. While partners described negative impacts on their mental health (themes Alone, Ambiguous Loss, and All-consuming Effects of the illness⁷⁴), there was the uplifting Facing PTSD as a Unit,⁷⁴ and, while family members reported adverse effects on their mental health and well-being, there were also changes made in the family structure as a result of/reaction to the Veteran's PTSD.⁷³

The UK studies (N = 2) both investigated intimate partners, mental health, and perceived barriers to care for both themselves and the Veteran with PTSD.

Murphy et al. (United Kingdom)⁵⁸ found large percentages of the study population met clinical thresholds for alcohol misuse (45%), depression (39%), generalized anxiety disorder (37%), and PTSD (17%), with this clinical sub-group perceiving more barriers and more stigmatic associations. In the qualitative study, partners expressed challenges due to Veteran PTSD (Inequality in Relationship, Loss of Congruence with Own Identity, Volatile Environment, and Emotional Distress and Isolation⁷¹) but were hopeful and positive when discussing optimal support and care (Practical Focus on Improving, Sharing with Fellow Experts, and Care Tailored to the Partner⁷¹), with fewer perceived barriers.

Veteran PTSD and symptomology were particularly prominent in the literature, reflecting the seriousness of the issue, but also potentially due to publishing bias and researcher focus. Clinically sourced samples represent only help-seeking sub-groups, and a focus on PTSD neglects other psychopathologies,⁷⁷ leading to a constant refocusing of Veteran family issues through the lens of PTSD, whether it is present in individual lives or not. This review had multiple stated outcomes for exploration; however, as the abundance of Veteran family research concerned PTSD, the findings reflect the impact of PTSD but do not accurately describe a representative experience of Veteran families in Five Eyes countries. Importantly, a majority of Veterans do not experience psychological consequences of service,⁷⁸ with personal risk associated with trauma/injury,⁷⁹ which in turn have the potential to affect family members.

Strengths and limitations

The results of this review must be taken considering its limitations. While inclusion criteria defined Veterans as ex-service members, this term was used broadly and inconsistently in the literature, mirroring the differences in this definition across countries of the Five Eyes alliance and reflecting differing cultural views of both the military as an institution and individual service members. The United Kingdom favours an inclusive definition, while the United States prioritizes length and details of service, and Australia applies the term only to those who have served overseas.⁸⁰

While all results presented pertained to Five Eyes alliance countries, differences in demographic, cultural, and psychosocial variables prevent generalization to a higher population level. Several findings showed effects that fell below statistical significance or did not survive controls/association analysis; however, the distress suffered by the partners and adult children should

not be discounted. Though these studies examined the same outcome in similar populations, they used differing measures, main outcomes, and context, damaging the validity of direct comparisons or a true quantitative meta-analysis.

Qualitative data from the included studies illustrated partner and adult child distress and personal hardship where quantitative measures could not. Grey literature was cited here but was not included in the review as the materials were not peer reviewed. It must be noted that there are peer-reviewed, validated, grey literature sources available to researchers, including military/government data.

The strengths of this review include a rigorous methodology that included protocol registry and strict adherence to Cochrane standards for the performance of a systematic review. It has also starkly illuminated the breadth of the current research into the psychological health and well-being of partners and adult children of Veterans while also highlighting how little is known about these populations.

Limitations of the included research

The results described in this project must be taken when also considering the limitations of the background research; this is because the scope of the findings were limited by the paucity of the literature. The narrow field of study of this review impacted results as a majority of the studies investigating psychological outcomes in the children of Veterans used samples < 18 years and a majority of the studies examining these outcomes in the partners of Veterans concentrated on active duty samples, none of which could be included here due to this study's inclusion/exclusion criteria.

Of the 24 studies reviewed here, 17 featured recruitment through the Veteran while only 6 recruited directly (1 utilized opportunistic secondary data). Most of the available literature was focused on Veteran PTSD, neglecting the experiences of military Veteran families who are not dealing with PTSD or any other mental illness. Additionally, there is a sizable body of research exploring active duty deployment and re-integration in the military family but substantially less on the transition to civilian life and outcomes thereafter.

Several additional objectives were outlined in the review protocol for investigation in this review, including identifying risk/resilience factors and their prevalence, studies linking family member outcomes to those of the ex-service member, and differences in cross-country

results, risk/resilience factors between partners and children, early-service-leaver families, branch of military service, and between children born during their parent's military service and post-service. Unfortunately, these objectives were not able to be fulfilled due to lack of relevant data in the included studies and lack of included studies relevant to these objectives, which again underscores the need for additional research into these issues.

Implications and future research

The implications of this review are three-fold: 1) there is insufficient research into the mental health and well-being outcomes of the partners and adult children of ex-service members, 2) the extant research has shown a clear association of Veteran PTSD and adverse outcomes in this population and, 3) the barriers to support act as a unique hardship for individuals and family units who are under stress. Additional research is urgently needed to explore not only mental health outcomes in Veteran families, but also to investigate factors associated with resilience and well-being. There is a large population of adult children of Vietnam Veterans within the Five Eyes countries and the only qualitative research describing their experiences was limited to a single Australian study of one family.

Most of the research discussed in this review focused on Veterans with PTSD, excluding other mental illnesses but also ignoring the fact that many Veterans do not suffer from mental illness.⁸¹⁻⁸⁵ The mental health and well-being of partners and adult children of these Veterans is important and future research must concentrate on all sub-groups within this population to adequately serve it. Research into successful help/support factors would also be invaluable in conjunction with these future studies in designing programs, interventions, and other venues of support. Initiatives which start when the service member and family transition to civilian life would support and protect this population while also strengthening the entire military community throughout Five Eyes alliance countries.

To conclude, a sub-group of adult children and partners of Veterans may face unique mental ill health risks dependent on individual factors but associated with Veteran PTSD. This review stands as a barometer of the situation in the Five Eyes alliance countries based on previous research, with further research into Veteran family experiences needed. It is clear that the effects of military service on Veterans and their families can persist into civilian life, necessitating an increased focus on the care available and provided to this population.

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COMPETING INTERESTS

Nicola T. Fear is funded by a grant from the UK Ministry of Defence (MoD) and works on projects funded by the MoD and Office for Veterans' Affairs. She is also a trustee of a charity supporting Veterans and their families. Dominic Murphy is a trustee for the Forces in Mind Trust.

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PEER REVIEW

This manuscript has been peer reviewed.

APPENDICES

Appendix 1

Search strings

1. ti, ab (Veteran*) OR (Retired) OR (Ex-servi*) OR (Discharged) OR (Early service leaver) OR (Military) OR (Military Personnel) OR (Navy) OR (Army) OR (Air Force) OR (Military Family)) AND ((Military Family Member*) OR (Dependant*) OR (Spous*) OR (Wife) OR (Wives) OR (Husband*) OR (Partner*) OR (Parent*) OR (Mother*) OR (Father*) (Child*))

ti = (Veteran* OR Retired OR Ex-servi* OR Discharged OR Early service leaver OR Military OR Military Personnel OR Navy OR Army OR Air Force OR Military Family) AND ti = (Military Family Member* OR Dependant* OR Spous* OR Wife OR Wives OR Husband* OR Partner* OR Parent* OR Mother* OR Father* OR

Child*) AND ab = (Veteran* OR Retired OR Ex-servi* OR Discharged OR Early service leaver OR Military OR Military Personnel OR Navy OR Army OR Air Force OR Military Family) AND ab = (Military Family Member* OR Dependant* OR Spous* OR Wife OR Wives OR Husband* OR Partner* OR Parent* OR Mother* OR Father* OR Child*)

2. ti, ab (Veteran*) OR (Retired) OR (Ex-servi*) OR (Discharged) OR (Early service leaver) OR (Military) OR (Military Personnel) OR (Navy) OR (Army) OR (Air Force) OR (Military Family)) AND ((ti,ab. (Military Family Member*) OR (Dependant*) OR (Spous*) OR (Wife) OR (Wives) OR (Husband*) OR (Partner*) OR (Parent*) OR (Mother*) OR (Father*) (Child*)) AND ((Depress*) OR (Low mood) OR (Anxiet*) OR (Anxious) OR (Stress*) OR (Worry) OR (Post-traumatic stress disorder) OR (PTSD) OR (Trauma*) OR (Alcohol) OR (Alcohol abuse) OR (Alcohol misuse) OR (Alcohol dependence) OR (Problem drinking) OR (Substance*) OR (Substance abuse) OR (Substance misuse) OR (Substance dependence) OR (Drug*) OR (Drug* abuse) OR (Drug* misuse) OR (Drug* dependence))

ti = (Veteran* OR Retired OR Ex-servi* OR Discharged OR Early service leaver OR Military OR Military Personnel OR Navy OR Army OR Air Force OR Military Family) AND ti = (Military Family Member* OR Dependant* OR Spous* OR Wife OR Wives OR Husband* OR Partner* OR Parent* OR Mother* OR Father* OR

Child*) AND ti = (Depress* OR Low mood OR Anxiet* OR Anxious OR Stress* OR Worry OR Post-traumatic stress disorder OR PTSD OR Trauma* OR Alcohol OR Alcohol abuse OR Alcohol misuse OR Alcohol dependence OR Problem drinking OR Substance* OR Substance abuse OR Substance misuse OR Substance dependence OR Drug* OR Drug* abuse OR Drug* misuse OR Drug* dependence) AND ab = (Veteran* OR Retired OR Ex-servi* OR

Discharged OR Early service leaver OR Military OR Military Personnel OR Navy OR Army OR Air Force OR Military Family) AND ab = (Military Family Member* OR Dependant* OR Spous* OR Wife OR Wives OR Husband* OR Partner* OR Parent* OR Mother* OR Father* OR Child*) AND ab = (Depress* OR Low mood OR Anxiet* OR Anxious OR Stress* OR Worry OR Post-traumatic stress disorder OR PTSD OR Trauma* OR Alcohol OR Alcohol abuse OR Alcohol misuse OR Alcohol dependence OR Problem drinking OR Substance* OR Substance abuse OR Substance misuse OR Substance dependence OR Drug* OR Drug* abuse OR Drug* misuse OR Drug* dependence)

3. ti, ab (Veteran*) OR (Retired) OR (Ex-servi*) OR (Discharged) OR (Early service leaver) OR (Military) OR (Military Personnel) OR (Navy) OR (Army) OR (Air Force) OR (Military Family)) AND ((Military Family Member*) OR (Dependant*) OR (Spous*) OR (Wife) OR (Wives) OR (Husband*) OR (Partner*) OR (Parent*) OR (Mother*) OR (Father*) (Child*)) AND ti, ab. (Psychosocial) OR (Psycholog*) OR (Psycholog* outcomes) OR (Mental health) OR (Mental illness) OR (Risk) OR (Resilience))

ti = (Veteran* OR Retired OR Ex-servi* OR Discharged OR Early service leaver OR Military OR Military Personnel OR Navy OR Army OR Air Force OR Military Family) AND ti = (Military Family Member* OR Dependant* OR Spous* OR Wife OR Wives OR Husband* OR Partner* OR Parent* OR Mother* OR Father* OR Child*) AND ti = (Psychosocial OR Psycholog* OR Psycholog* outcomes OR Mental health OR Mental illness OR Risk OR Resilience) OR ab = (Veteran* OR Retired OR Ex-servi* OR Discharged OR Early service leaver OR Military OR Military Personnel OR Navy OR Army OR Air Force OR Military Family) AND ab = (Military Family Member* OR Dependant* OR Spous* OR Wife OR Wives OR Husband* OR Partner* OR Parent* OR Mother* OR Father* OR Child*) AND ab = (Psychosocial OR Psycholog* OR Psycholog* outcomes OR Mental health OR Mental illness OR Risk OR Resilience)

4. ti, ab (Veteran*) OR (Retired) OR (Ex-servi*) OR (Discharged) OR (Early service leaver) OR (Military) OR (Military Personnel) OR (Navy) OR (Army) OR (Air Force) OR (Military Family)) AND ((ti,ab. (Military Family Member*) OR (Dependant*) OR (Spous*) OR (Wife) OR (Wives) OR (Husband*) OR (Partner*) OR (Parent*) OR (Mother*) OR (Father*) (Child*)) AND ((Depress*) OR (Low mood) OR (Anxiet*) OR (Anxious) OR (Stress*) OR (Worry) OR (Post-traumatic stress disorder) OR (PTSD) OR (Trauma*) OR (Alcohol) OR (Alcohol abuse) OR (Alcohol misuse) OR (Alcohol dependence) OR (Problem drinking) OR (Substance*) OR (Substance abuse) OR (Substance misuse) OR (Substance dependence) OR (Drug*) OR (Drug* abuse) OR (Drug* misuse) OR (Drug* dependence)) AND ((Psychosocial) OR (Psycholog*) OR (Psycholog* outcomes) OR (Mental health) OR (Mental illness) OR (Risk) OR (Resilience))

Appendix 2

Quality assessment

Authors	Pub Year	Journal	Article Title	QA1	QA2	QA3	QA4	QA5	QA6	QA Total
Alessi et al.	2001	<i>Journal of Clinical Psychology</i>	Personality and psychopathology profiles of Veteran's wives: Measuring distress using the MMPI-2	1	1	1	1	0	1	5
T. Beks	2016	<i>The Qualitative Report</i>	Walking on eggshells: The lived experience of partners of Veterans with PTSD	1	1	1	1	0	1	5
Campbell, Renshaw, & Keith	2012	<i>Journal of Family Psychology</i>	Distress in spouses of Vietnam Veterans: Associations with communication about deployment experiences	1	1	1	1	1	1	6
Calhoun, Beckham, & Bosworth	2002	<i>Journal of traumatic stress</i>	Caregiver burden and psychological distress in partners of Veterans with chronic posttraumatic stress disorder	1	1	1	1	1	1	6
Cramm et al.	2020	<i>Military Behavioral Health</i>	Impact of Canadian Armed Forces Veterans' mental health problems on the family during the military to civilian transition	1	0	1	1	0	1	4
Forrest, Edwards, & Daraganova	2018	<i>International Journal of Epidemiology</i>	The intergenerational consequences of war: Anxiety, depression, suicidality, and mental health among the children of war Veterans	1	1	1	1	1	1	6
Gunter, O'Toole, Dadds, & Catts	2020	<i>Psychiatry research</i>	Family emotional climate in childhood and risk of PTSD in adult children of Australian Vietnam Veterans	1	1	1	1	1	1	6
Johnson, Vidal, & Lilly	2018	<i>Military Medicine</i>	Absence of a link between childhood parental military service on depression and anxiety disorders among college students	1	1	1	1	1	1	6
Lee et al.	2020	<i>Military Behavioral Health</i>	A dyadic examination of drinking behaviors within military-connected couples	1	1	1	1	1	1	6
MacDonell, Bhullar, & Thorsteinsson	2016	<i>PeerJ</i>	Depression, anxiety, and stress in partners of Australian combat Veterans and military personnel: A comparison with Australian population norms	1	1	1	1	1	1	6
MacDonell, Thorsteinsson, Bhullar, & Hine	2014	<i>Australian Psychologist</i>	Psychological functioning of partners of Australian combat Veterans: Contribution of Veterans' PTSD symptoms and partners' caregiving distress	1	1	1	1	1	1	6
Manguno-Mire et al.	2007	<i>Journal of Nervous and Mental Disorders</i>	Psychological distress and burden among female partners of combat Veterans with PTSD	1	1	1	1	1	1	6

(Continued)

(Continued)

Authors	Pub Year	Journal	Article Title	QA1	QA2	QA3	QA4	QA5	QA6	QA Total
McCormack, Hagger, & Joseph	2011	<i>Journal of Humanistic Psychology</i>	Vicarious growth in wives of Vietnam Veterans: A phenomenological investigation into decades of "lived" experience	1	1	1	1	0	1	5
McCormack & Sly	2013	<i>Traumatology</i>	Distress and growth: The subjective "lived" experiences of being the child of a Vietnam Veteran	1	1	1	1	0	1	5
Moriarty, Winter, Short, & True	2018	<i>Journal of Family Nursing</i>	Exploration of factors related to depressive symptomatology in family members of military Veterans with traumatic brain injury	1	1	1	0	1	1	5
Murphy, Palmer, & Busuttil	2016	<i>Journal of Clinical Medicine</i>	Mental health difficulties and help-seeking beliefs within a sample of female partners of UK Veterans diagnosed with post-traumatic stress disorder	1	1	1	1	1	1	6
Murphy, Palmer, Hill, Ashwick, & Walter	2017	<i>Journal of Military, Veteran and Family Health</i>	Living alongside military PTSD: A qualitative study of female partners' experiences with UK Veterans	1	1	1	1	1	1	6
O'Toole et al.	2017	<i>Acta Psychiatrica Scandinavica</i>	Intergenerational transmission of post-traumatic stress disorder in Australian Vietnam Veterans' families	1	1	1	1	1	1	6
O'Toole, Outram, Catts, & Pierse	2010	<i>Journal of Nervous & Mental Disease</i>	The mental health of partners of Australian Vietnam Veterans three decades after the war and its relation to Veteran military service, combat, and PTSD	1	1	1	1	1	1	6
O'Toole et al.	2018	<i>Psychiatry Research</i>	Growing up with a father with PTSD: The family emotional climate of the children of Australian Vietnam Veterans	1	1	1	1	1	1	6
O'Toole et al.	2018	<i>International Journal of Epidemiology</i>	The mental health of sons and daughters of Australian Vietnam Veterans	1	1	1	1	1	1	6
O'Toole et al.	2015	<i>Journal of Psychiatric Research</i>	Suicidality in Australian Vietnam Veterans and their partners	1	1	1	1	1	1	6
Outram et al.	2009	<i>Australian Psychologist</i>	Still living in a war zone: Perceived health and wellbeing of partners of Vietnam Veterans attending partners' support groups in New South Wales, Australia	1	1	1	1	0	1	6
Saban et al.	2016	<i>Biological Research for Nursing</i>	The man I once knew: Grief and inflammation in female partners of Veterans with traumatic brain injury	1	1	1	1	1	1	6