# Comparison of Social and Economic Stress in Military and Civilian Families: A Rapid Review of the Evidence

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## Abstract

Although many military families demonstrate resilience and strength, research highlights that military service may impact the health and wellbeing of families. In comparison with civilian families, military families are embedded within a broader military context and culture which may influence many aspects of family life, including socioeconomic status and social participation. This rapid review utilised a systematic methodology to synthesise the evidence of comparing possible differences of the socioeconomic and social participation of military families with civilian families. Relevant online databases such as Medline, PsycINFO, CINAHL and ProQuest Central were searched for articles published between January 2000 and February 2022. After screening 3057 articles, five studies were included for analysis. The results highlight considerable income, education and employment gaps between current serving military and civilian spouses. An association was found between social, economic status and increased risk of violence or assaults in military families. Specifically, younger age and decline in health status were key predictors of domestic violence assaults in military families. This review highlights emerging evidence and recommends further Australian-based research with military families. Policy, research, and practice implications are discussed with consideration to preventative interventions tailored towards strengthening health, wellbeing, and socio-economic status of military families.

## Keywords

Military, Family, Civilian, Social and Economic Outcomes, Rapid Review

## 1. Introduction

Military families are embedded within a broader military context and culture which may influence many aspects of family life, including socioeconomic status (SES) and social participation (Blakely et al., 2012; Clever & Segal, 2013; Thandi et al., 2018). Research pertaining to military families' SES and social participation has considerable policy and practice implications as they may impact retention. However, whilst military retention is related to multiple inter-related factors at various levels including community, organisation, family and individual (Hawkins et al., 2018), most studies have focused on the individual context, and less on the SES and/or social participation of military families (Blakely et al., 2012; Clever & Segal, 2013; Thandi et al., 2018).

Previous research categorises both current serving members and ex-serving members as a single combined group; limiting the generalisability of findings to current-serving members and families (Mailey et al., 2018; Wang & Pullman, 2019). In addition, ex-serving members may experience different circumstances and/or present with additional specific needs compared with current serving members (Stevelink et al., 2019; Maguire et al., 2022). For example, after transiting to civilian environments, ex-serving members experience multiple losses, including culture, healthcare, employment, housing, income, military identity and social networks (Sayer et al., 2011). Studies focusing on currently deployed or serving members are limited, and those with such a focus rarely use civilian families as a control group.

## 2. Literature Review

The Australian Defence Census 2019 Public Report indicate that amongst permanant Australian Defence Force (ADF) members, 60% had some form of post-school education compared to 40% with some form of secondary education (Roy, 2020). The Army had the higher proportion of members with completed Year 12 or less (48%), compared with the Navy (37%) and Air Force (25%). The Air Force had the highest percentage of members with a bachelor's degree or higher (32%), compared to Navy (23%) and Army (20%). In terms of employment, around 21% of the ADF permanent members with a partner indicated that their partner was not employed and 25% of the members indicated that their partner was employed by the ADF. The members of ADF had strong participation in community activities, as indicated by 25% reporting engagement with sporting clubs or groups. Among the branches of the defence force, Air Force members had the higher (45%) involvement in community or social groups than members in the Navy (41%) or Army (36%).

Instability caused by frequent movement and absence of military members is likely to have an impact on the education and employment of military spouses. Several US based studies have found differences in employment, income, and education status between military and civilian spouses (Harrell et al., 2004; Hisnanick & Little, 2010; Hosek & Wadsworth, 2013; Meadows et al., 2015; Wang &

Pullman, 2019). Military spouses appear to report lower rates of employment and lower weekly earning than their civilian spouses; these differences remain after adjusting for age, geography, education and number of children (Wang & Pullman, 2019). Studies suggest that constant anticipation of relocation may discourage military spouses from seeking employment or enrolling in formal education (Burke & Miller, 2016). Military spouses are also more likely to engage in careers which they are over-qualified for because they prioritise flexibility (Gribble et al., 2019).

In addition, the varied and unpredictable work schedule of military members may place more of the family/child caring responsibilities on the spouse, further limiting their options for employment and education (Burke & Miller, 2016). Other studies suggest that military spouses are more likely to be young, better educated and have dependent children compared to their civilian counterparts, affecting their likelihood of being employed (Lim et al., 2007). The studies above did not separate current and ex-serving servicing members within military study samples which may bias the results as the characteristics of ex-serving members are likely to be different to currently serving military members.

There is increasing attention on outcomes for military families' dependants in addition to military spouses, as the mobile nature of the military service life may have adverse impacts on children's education (Anderson, 1997). In the US, childcare and children education functions, parenting and family functions, finance and spouse employment, marital problems, military life experience and rank of military position level were found to be significantly associated with the retention of the military services (Hawkins et al., 2018). However, these findings were based on military samples with no comparison with civilian families.

Social economic status and social participation may then impact risk of adverse experiences. Several studies indicate that variables such as age, education and marital status are associated with intimate partner violence (IPV) within military families (Smith-Marek et al., 2016; Kwan et al., 2020). Previous systematic reviews (Smith-Marek et al., 2016; Kwan et al., 2020) on the risk factors of IPV in military families, highlighted that military lifestyle stresses including frequent relocation or family separation may impact relationship satisfaction and may lead to higher rates of IPV within the military family. Research indicates that protective factors such as social support and social participation may decrease the risk and/or impact of IPV among military families (Hawkins et al., 2018). Whilst social, economic, and military stressors are likely to contribute to adverse experiences, there is a need to further explore and compare the SES and social participation of current serving military sample with civilian populations.

Considering these gaps in the literature, this paper utilises a rapid review methodology to address the following two questions:

1) How do social and economic outcomes (social participation, education, legal/justice, housing, family income, spousal employment, and social participation) differ for current serving military families, relative to families in the general population?

2) What are key modifiable risk factors (prevention targets) to support military family social and economic wellbeing?

## 3. Methods

This review utilised the Cochrane Rapid Reviews guidelines (Garritty et al., 2021) with the following phases: 1) deciding on a research question and appropriate search terms; 2) utilising the Preferred Reporting Items for Systematic Reviews and Meta-analyses (PRISMA) guidelines (Moher et al., 2009) to systematically search relevant databases; 3) using inclusion and exclusion criteria to systematically screen retrieved studies; 4) undertaking data extraction; 5) assess the quality of the included studies; and 6) synthesising the findings using a narrative approach. The review protocol was registered and is available on PROSPERO (CRD42022323317).

### Search strategy

As a rapid review, electronic databases of Medline, PsycINFO, CINAHL and ProQuest Central, were searched for published records from January 2000 to February 2022. Search term selection was guided by the research questions using the PICO strategy (da Costa Santos, de Mattos Pimenta, & Nobre, 2007).

P: Current serving members who have family/spousal partners of current serving members

I: Serving in a defence force

C: Never serving in a defence force

O: Social and economic outcomes/social participation

A comprehensive list of search terms was developed. Outcomes pertained to one or both members of the partnership and included: community participation (e.g., involvement in clubs, societies, or community activities; social support; civic engagement), education, family income, household income, partner income, partner employment, housing conditions, disadvantage or socioeconomic disadvantage, legal issues and violence.

### Inclusion and exclusion criteria

Studies were published in English since the year 2000, inclusive. Study designs included any of experimental, RCT, systematic review, mixed methods, or qualitative studies (where a general population or never-served comparison group is used). Studies excluded were case studies, studies containing data collected post-service, even if it concerned the period of service retroactively, and military member(s) on mandatory service.

### Screening and data extraction (selection and coding)

A pilot exercise was conducted using 30 - 50 abstracts for the screening team to calibrate and test the review form. Two reviewers independently screened 20% of abstracts, with conflict resolution through discussion. One reviewer screened the remaining abstracts and a second screened all excluded abstracts, with resolution of conflicts by a third screener. Using a standardized full-text form, a pilot exercise used the same 10 full-text articles for the entire screening team to calibrate and test the review form. A single reviewer extracted the data using a pi-

loted data extraction form within the Covidence webapp. A second reviewer then verified that the data extraction has been conducted correctly.

For all included studies, we extracted information on the year of publication, name of the first author, country, study design, study population, research participants, age of participants, comparison or control group, attrition, point of service, indicator variables, outcome variables, outcome measure(s), covariates, relevant findings, and effect size.

A narrative approach was used to synthesise the findings. A meta-analytic approach was not appropriate, given the small pool of studies with inconsistent outcomes and various measurements. In addition, the JBI Critical Appraisal Checklist for Case Control Studies was used to assess the quality of included studies (Joanna Briggs Institute, 2016). A total score of 0 - 3 was considered as high risk of bias, 4 - 6 was considered as moderate, and 7 - 10 was assigned to low risk of bias.

## 4. Results

The search identified 3057 records. Following the removal of 901 duplicates, 2156 records were screened for title and abstract screening using systematic review software (Covidence systematic review software). Forty-five studies were chosen for full-text screening, from which five were included in the final review (Figure 1).
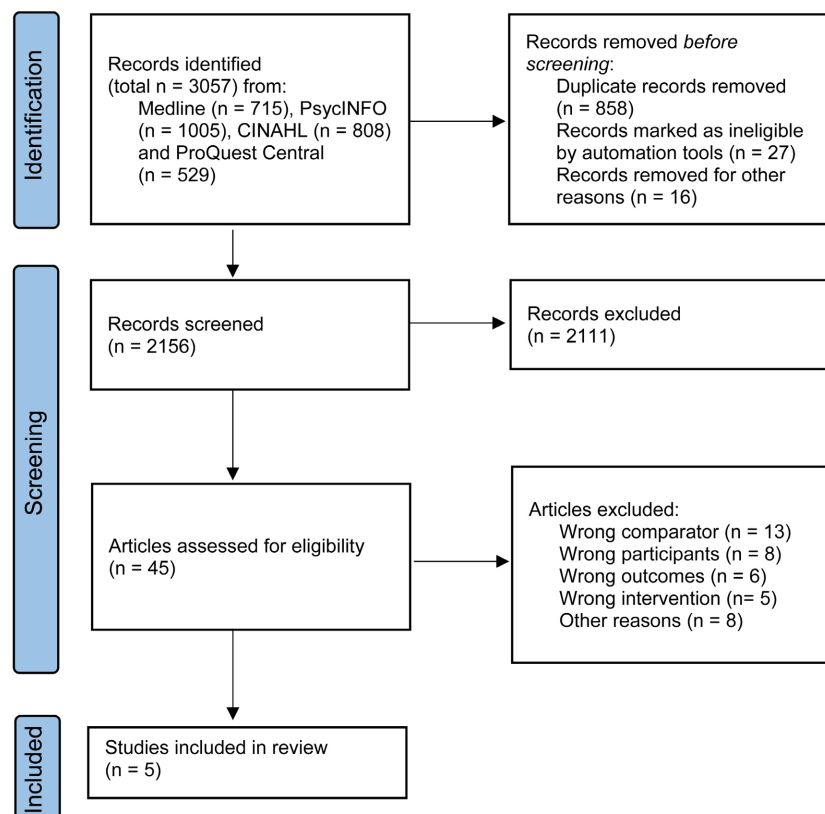


**Figure 1.** PRISMA chart of study identification.

*Characteristics of included studies*

Of the five included studies (Table 1), two were from Nigeria and three from the US. Four studies utilised a comparative cross-sectional research design, and one study used a cohort prospective design. The quality of the included papers ranged from low (3) to moderate (6) (please see Table A1. Quality assessment for the studies included in the review in **Appendix**).

Overall, there was considerable heterogeneity across the studies, including differences in terms of sample size, participants and comparison groups. One study focused on employment and income gaps between military wives and civilian

**Table 1.** Description and characteristics of included studies (N = 5).

| Author (Year) Country | Study Design | Service Member Population | Research Participants | N participants, p Female | Participant Age Range, Mean (SD) | Comparison Group | Attrition (%) |
|---|---|---|---|---|---|---|---|
| **Patton et al. (2017)** *The US* | Comparative cross-sectional | Male murder-suicide perpetrators | Military member | N = 259 (Control N = 259) 0% Female | Range: 17 years + Mean 57.05 (18.06) for military members and 41.56 (13.72) for civilians | Other murder-suicide perpetrators in the data randomly matched by male gender civilians only. | N/A |
| **Merrill et al. (2005)** *The US* | Before-after study | New US Navy recruits | Service member | N = 963 (Control N = n/a) 56.3% Female. | Range: 17 - 35 years at baseline (This was ~2 years prior to follow up) Mean 19.81 (2.79) | Same cohort, compared to themselves at baseline (premilitary). | Declined to participate at baseline: 4%. Giving n = 5498 at baseline. Excluded due to incomplete data[c]: 5435 (82.5%). |
| **Meadows et al. (2015)** *The US* | Cross-sectional comparison with matched sample | Deployable, married, US military families. Restricted to families where service member is in active service (non-reserve) and the spouse is female. | Military wives | N = 1779 (Control N = see note[a]) 100% female | Range: 18 - 58 Mean 30.94 (6.90) | Civilian wives from the 2009-2011 ACS Public Use Microdata files, matched for race (white/minority), years of age (18 - 24, 25 - 34, 35 - 44, 45 - 58), presence of children under 6 years (yes/no), highest education level achieved. | N/A |

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|---|---|---|---|---|---|---|---|
| Chimah et al. (2015) *Nigeria* | Comparative cross-sectional | Current serving head-of-household men residing at the Lungi military barracks | Females in an intimate relationship with service member (one per household) | N = 130 (Control N = 108) 100% Female | Range not reported Mean 30.4 (10.8) | Women with male intimate partner civilians selected at random from within Wuse Zone 2[b]. Mean age: 38.0 (10.6). Age range unknown | N/A. Non-response rate: Military 0/130 (0%), Civilian 108/130 (16.9%). |
| Adejimi et al. (2022) *Nigeria* | Comparative cross-sectional | Serving male military personnel in the city of Ibadan, Oyo, Nigeria | Military member | N = 631 (Control N = 609) 0% Female | Range not reported Mean 35.13 (9.1) | Male civil servants from the Oyo State Secretariat located in Ibadan. Mean age: 38.85 (9.95). Age range unknown | N/A. |

Note: [a] = N of comparison group was reported in a range (from 220 to 128,990 in the match group), [b] = a neighbourhood in Abuja, Nigeria containing 16 streets, [c] = incomplete data at baseline and/or 2-year follow up.

wives (Meadows et al., 2015). Four studies focused on the relationship between socioeconomic indicators or participation and use of violence, assaults or intimate partner violence in military and civilian families (Merrill et al., 2005; Chimah et al., 2015; Patton et al., 2017; Adejimi et al., 2022). Only one study [e.g., Merrill et al. (2005)] had both male and female participants, others had study participants of a single gender only (either male or female). These domains are synthesised in the following sections.

*Study findings*

Table 2 presents a summary of key findings. The findings are synthesised within broad domains such as employment and income, socioeconomic predictors of violence in military families.

*Employment and income*

Using comparative cross-sectional survey analysis, Meadows et al. (2015) examined the gaps of employment and income between military spouses and matched civilian spouses with similar characteristics (e.g., age groups, presence of children under 6 years, highest education level achieved). The study found wives with military partners worked around 15 hours less per week than their civilian counterparts. Military wives also reported they earned approximately USD$17,000/year less than the matched civilians. The authors found that socioeconomic factors, such as age, education, minority status, and children under 6 years were not associated with the working hours and employment gaps between military spouses and their civilian counterparts. Instead, characteristics of the military service-person's service, such as Navy vs Army, rank of level/grade and frequency or times of move may predict employment gap. In contrast, there was a significant negative association of age and education with the earning or

Table 2. Summary of outcomes, covariates and effect size of reviewed studies (N = 5).

| Author (Year) Country | Point of service | Indicator variables | Outcome variables | Outcome measure (s) | Covariates | Relevant findings | Effect size |
|---|---|---|---|---|---|---|---|
| Patton et al. (2017) The US | Unknown | • Age<br>• Motive<br>• Behavioural health<br>• Context of event | • Perpetrator is military/ non-military | • Precoded variable in the National Violent Death Reporting System dataset, derived from information received from police and medical examiner reports. | • Ethnicity<br>• Marital status | Retrospective study investigating factors which predicted perpetrator being military vs civilian. Chi-square tests show that significant differences were found among age, race, education, marital status and primary motive among matched military vs civilian groups.<br>Logistic regression results show Age group (OR: 1.06, 95% CI: 1.05 - 1.08; $p < 0.001$), declining health motive vs other/unknown motive (OR: 2.91, 95% CI: 1.25 - 6.76; $p = 0.013$), physical health problems (OR: 2.65, 95% CI: 0.09 - 0.774; $p = 0.015$) were associated with military group membership. | • Chi-quare ($c^2$)<br>• OR<br>• 95% CI<br>• $p$-value |
| Merrill et al. (2005) The US | Baseline:<br>• New recruits<br>Follow-up:<br>• Post-2 years of service | • Age<br>• Gender<br>• Family income<br>• Education<br>• Marital status | • Past-year severe intimate partner violence | Responding yes to any of the severe physical violence items of the Conflict Tactics Scale (CTS)<br>• "Hit (or tried to hit) other person, but not with anything"<br>• "Hit (or tried to hit) other person with something hard"<br>• "Kicked, bit or hit with a fist"<br>• "Beat the other person up"<br>• "Threatened the other person with a knife or gun" | • Gender | Premilitary (baseline):<br>11% of respondents self-reported severe IPV within the past year. Proportion was higher among women than men [20% vs 4%, $c^2$ (1) = 43.99, n = 963, $p < 0.001$].<br>At baseline, age was significantly associated with premilitary SIPV for men (r = 0.12, n = 421, $p < 0.05$) but not for women (r = 0.03, n = 542, not significant [p value not reported]).<br>To test for non-linear association between age and SIPV, $c^2$ tests of association were also conducted but similarly found a significant association for men but not for women. Ethnicity was significantly associated with SIPV for men ($c^2$ (2) = 9.51, n = 359, $p < 0.01$) and women ($c^2$ (2) = 20.01, n = 476, $p < 0.001$). Neither of family income, education level, or marital status were associated with past-year SIPV.<br>Second-year of service:<br>Proportion reporting past-year severe IPV was 14%, with no significant difference by gender [$c^2$ (1) = 2.23, n = 963, $p > 0.10$]. At second year of service, age was not related to SIPV perpetration for men or women. Ethnicity was not associated with SIPV for either men ($c^2$ (2) = 0.83, n = 359, $p > 0.65$) or women ($c^2$ (2) = 4.03, n = 476, $p > 0.13$). Neither of family income, education level, or marital status were associated with past-year SIPV.<br>Change:<br>Apparent increase from 11% to 14% between premilitary and second year was not statistically significant [McNemar change test $c^2$ (1) = 3.43, n = 963, $p < 0.07$]. A trend appeared when stratified by gender. For men, proportion reporting past-year SIPV increased between measurement points increased [4% vs 16%, McNemar change test $c^2$ (1) = 32.51, n = 421, $p < 0.001$], but for women there was a significant decrease [20% vs 12%, McNemar change test $c^2$ (1) = 4.92, n = 542, $p < 0.05$]. | • McNemar's Chi-square ($c^2$)<br>• n<br>• $p$-value |

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| Author | | | | | | Results | |
|---|---|---|---|---|---|---|---|
| Meadows et al. (2015) *The US* | Active service | • Spouse is military/civilian. | • Hours worked per week<br>• Earnings per year | Hours worked:<br>• Wives of military: Self-report hours worked for pay per week.<br>• Wives of civilian: Self-report average hours worked per week over the past year<br>Self-reported raw earnings:<br>• Wives of military: Self-report pretax personal income over the past year from all sources. Categorical measure with 20 levels.<br>• Wives of civilian: Sum of self-reported annual personal income over eight categories. Continuous measure, categorised by the authors. | • Spouse's Military branch/ service<br>• Spouse's rank<br>• Times moved<br>• Spouse's number of deployments | Military wives work less hours (approx. −15 hours per week; no statistical test reported) than population norms of matched census data.<br>Military wives earn less (approx. US$17000 per week; no statistical test reported). than population norms of matched census data.<br>None of the sociodemographic characteristics measured (age, education, minority status, children under 6 years) predicted hours gap. However, there was evidence that some characteristics of the military service-person's service may predict hours gap, namely serving in the Navy vs Army (B = 3.00, SE B = 1.30, $p < 0.05$), rank of E1 - E3 vs E4 - E5 (B = −7.22, SE B = 2.06, $p < 0.001$), rank of E6 - E9 vs E4 - E5 (B = 3.30, SE B = 1.55, $p < 0.05$), and times moved (B = −2.18, SE B = 0.46, $p < 0.001$).<br>Many of the sociodemographic characteristics predicted earnings gap, Age (B = −443.25, SE B = 108.18, $p < 0.001$), all categories of education (with bachelor's degree or higher being associated with the largest gap (B = −14722.17, SE B = 1497.38, $p < 0.001$).<br>There was also evidence that the serviceperson's service characteristics were associated with magnitude of gap, including service in the navy (B = 2864.63, SE B = 1047.10, $p < 0.01$) or Air Force (B = 2781.40, SE B = 1260.10, $p < 0.05$) vs serving in the army; having a rank of E1 - E3 (B = −3122.17, SE B = 1455.03, $p < 0.05$) or E6 - E9 (B = 3373.53, SE B = 1375.80, $p < 0.05$) vs having a rank of E4 - E5; and times moved (B = −2261.43, SE B = 431.98, $p < 0.001$).<br>Considering only the military wives who report any earnings per week, military wives have a similar number of hours worked compared to population norms of matched census data, however they earn less for these hours of work.<br>Highly educated military wives did not appear to be disproportionally affected by these gaps. The article did not present the results of the statistical tests with these findings. | • Coefficient B<br>• SE of coefficient. B<br>• $p$-value |
| Chimah et al. (2015) *Nigeria* | Current serving | • Male partner is military/ civilian | • Controlling attitude<br>• Physical abuse<br>• Emotional abuse<br>• Sexual abuse | • Modified form of the WHO standardized questionnaire for collection of data on women's health and domestic violence. | N/A | Whether the covariates were adjusted or not is not clear.<br>Comparing the prevalence of the IPV categories for military-involved women vs civilian-involved women:<br>- Controlling behaviour: 37.1% vs 29.1% ($p = 0.1$)<br>- Physical abuse: 42.4% vs 13.4% ($p = 0.001$)<br>- Emotional abuse: 42.4% vs 13.4% ($p = 0.0001$)<br>- Sexual abuse: 9.2% vs 8.8% ($p = 0.44$)<br>Majority of the women in both the military and civilian populations were married, but respondents in the civilian community were better educated 67 (62.0%) had tertiary education compared to 30 (23.1%) in the military population ($p = 0.000$).<br>Mean ages for civilian and military partners were 44.9 + 9.6 and 37.75 + 5.90, respectively ($p = 0.00$). | • %<br>• $p$-value |

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|---|---|---|---|---|---|---|
| Adejimi et al. (2022) *Nigeria* | Current service | • Military/civilian<br>• Childhood exposure to inter-parental IPV<br>• History of physical fight with a woman<br>• Age<br>• Education<br>• Marital status<br>• Rank or seniority<br>• Current alcohol use<br>• Length of relationship | • IPV<br>• Physical violence<br>• Sexual violence<br>• Psychological abuse<br>• Controlling behaviour | • Modified and combined form of Revised Conflict Tactics Scale and WHO standardized questionnaire for the multi-country study on women, health and domestic violence. | N/A | Any form of IPV and adjusted for covariate:<br>- Male military personnel were more likely to perpetrate any form of IPV than the civil servants [OR: 1.806 (95% CI: 1.404 - 2.323)].<br>- Among men in civil service, after adjusting for other independent variables, tertiary vs secondary education [OR: 2.029 (95% CI: 1.306 - 3.152), $p < 0.01$], senior officer vs junior officer [OR: 0.485 (95% CI: 0.318 - 0.739), $p < 0.001$], childhood exposure to IPV [OR: 1.997 (95% CI: 1.005 - 3.967), $p < 0.05$], physical fight with a woman [OR: 3.037 (95% CI: 1.361 - 6.779), $p < 0.01$], and current alcohol use [OR: 1.733 (95% CI: 1.127 - 2.667), $p < 0.05$] were associated with perpetrating any form of IPV.<br>- Among men in military service, after adjusting for other independent variables, senior officer vs junior officer [OR: 2.561 (95% CI: 1.264 - 5.190), $p < 0.01$], childhood exposure to IPV [OR: 2.905 (95% CI: 1.480 - 5.700), $p < 0.01$], physical fight with a woman [OR: 2.458 (95% CI: 1.217 - 4.965), $p < 0.01$], and ≥11 years in relationship [OR: 0.539 (95% CI: 0.315 - 0.921), $p < 0.05$] were associated with perpetrating any form of IPV. | • OR (95% CI)<br>• *p*-value |

income gap between military spouses and their civilian counterparts. Characteristics of the military service-person's service, rank of level/grade of their partners in the military and frequency or times of move were also significantly associated with the military spouses' earning gap.

*Prevalence of violent behaviour*

A higher prevalence of violence or assault perpetration within the family was found among male military members compared with male civilians in the US and Nigeria (Patton et al., 2017; Adejimi et al., 2022). Furthermore, Chimah et al. (2015) found that women with a male military partner reported significantly higher prevalence of experiencing controlling behaviour, physical abuse and emotional abuse from their partner compared with women who has male civilian partner in Nigeria.

Using a pre/post analysis method, Merrill et al. (2005) compared rates of severe IPV perpetration during the year before enlistment and the second year of service in a US Navy personnel sample. Merrill and colleagues found that 11% of respondents self-reported severe IPV within the past year (premilitary). The percentage of perpetrating IPV was higher among women than men [20% vs 4%, $X^2(1) = 43.99$, $p < 0.001$]. In contrast, respondents reported a slightly higher rate of (14%) perpetrating severe IPV during their second year of service, but the difference with premilitary rate is not statistically significant. The prevlanece rates of selfreported severe IPV perpetration did not vary by gender during the second year in the military (12% vs 16%). Furthermore, the prevalence rates of severe IPV perpetration among men were significantly increased from 4% to

16% [$X^2(1) = 32.51$, $p < 0.001$] after join the military. While the prevalence rates of severe IPV perpetration among women were significantly decreased from 20% to 12% [$X^2(1) = 4.92$, $p < 0.05$].

*Socio-economic factors associated with increased risk for violent behaviour*

Two studies compared the social and economic differences of male violence or homicide perpetrators between military members and civilians (Patton et al., 2017; Adejimi et al., 2022). Using US military sample, Patton et al. (2017) found that age, levels of education, race, marital status, and primary motive were significantly associated with perpetrator of violence being military members compared with civilians. However, after controlling for various covariates, only age, decline in health status, and physical health problems predicted perpetration by male military members compared with the male civilian control group. Using a Nigerian sample, Adejimi et al. (2022) found that age, education, marital status and current use of alcohol significantly predicted male civilians who perpetrated IPV. But these predictors were not associated with perpetrating IPV by male military members. Adejimi et al. (2022) also found that male military members who were senior level officers were more likely to perpetrate IPV than junior level officers [OR: 2.561 (95% CI: 1.264 - 5.190), $p < 0.01$]. This result is opposite to the results of the civilian sample where senior level officers were less likely to perpetrate IPV than junior level officers [OR: 0.485 (95% CI: 0.318 - 0.739), $p < 0.001$].

In Nigeria, Chimah et al. (2015) found that a lower level of education and younger age were significantly correlated with increased risk for the experiencing controlling behaviour, physical abuse and emotional abuse from their partner. The authors concluded that the respondents who have male civilian partners were better educated than the respondents who had male military partners (proportions of tertiary education were 62.0% vs 23%, $p < 0.001$), and mean ages for male civilian partners were higher than male military partners (44.9 + 9.6 and 37.75 + 5.90).

Using a pre/post analysis method and the US sample, Merrill et al. (2005) found that younger age was a significant factor that predicted premilitary IPV for men (r = 0.12, n = 421, $p < 0.05$) but not for women (r = 0.03, n = 542, $p > 0.05$). They also found ethnicity was a significant factor that predicted IPV for both men ($c^2$ (2) = 9.51, n = 359, $p < 0.01$) and women ($c^2$ (2) = 20.01, n = 476, $p < 0.001$). In contrast, respondents' family income, level of education, and marital status were not statistically associated with the experience of past-year IPV. At the second year of military service, the proportion perpetrating IPV increased among men, however there was no significant difference between IPV perpetration among men and women. Interestingly, for those in the second year of military service, age, ethnicity family income, education level, or marital status were found not associated with past year IPV.

## 5. Discussion

This rapid review synthesised the limited available studies (n = 5) pertaining to

social and economic status between current military serving families and civilian families. Most studies focused on social and economic factors as predictors of IPV and/or assault in military and civilian families. The findings highlight a higher risk of experiencing IPV within military families compared to civilian families. Some socio-economic predictors of IPV or assaults (i.e., education level and marital status) were significant for civilian populations but not for current military families. Age, decline in health status, and physical health were significant predictors of use of domestic violence in current military families. Overall, this rapid review highlight considerable gaps in this underresearched area and recommend future research, in particular Australian-based research with military families.

### Socioeconomic outcomes, deployment and relocation

This rapid review found compared with civilian spouses, maintaining and developing a career may be difficult for military spouses due to partners' relocation or frequent moves (Meadows et al., 2015). Relocation, gender, education, and service member pay grade or level appear to impact on a military spouse's ability to receive and maintain employment and higher income. This may lead to family related concerns or stress, which may affect the retention of the military members.

The findings also suggest that education is likely a significant predictor that affects the income gap between military and civilian spouses. Therefore, policies or programs aiming to improve educational opportunities, career choices, and job search for spouses may help to reduce employment and income gaps between military and civilian spouses (Hisnanick & Little, 2015). Lack of stability may be a barrier to using the opportunities available to the military spouses. Providing access to online education and supporting meaningful connection to social networks may help military spouses with completion of study.

Two of the reviewed studies stated that compared with civilian spouses, military spouses were more likely to live in metropolitan areas (Harrell et al., 2004; Wang & Pullman, 2019). Furthermore, military wives living in remote areas appear to earn less than their metropolitan counterparts (Harrell et al., 2004). With this, military spouses may reap the benefits of living among a larger population density with a high degree of economic and social integration. This may create more employment opportunities for military spouses and opportunities to earn relatively more compared with those who live in remote areas. This finding suggests that providing housing supports and locating military spouses in metropolitan areas may help to increase rate of employment and increase earnings, which may result in improved military retention.

### Social support and participation in military families

This review found no studies published in the past 20 years comparing social participation between current serving military and civilian families, thus evidence in this area continues to rely on within-group designs. Previous studies of military samples found that social support or participation including formal and informal supports may improve mental and physical health and family relation-

ship for both serving members and their spouses (Crouch et al., 2017). Social supports from parents, friends or communities were significantly associated with improved health and well-being of active serving members and their military spouse (Hawkins et al., 2018). A positive link between social support and mental health was found in Australia, where military partners who reported more social support from family or non-family were less likely to screen positive for post-traumatic stress disorder (Australian Centre for Posttraumatic Mental Health, 2011). These findings suggest that involving military family in social interactions with family, friends and communities may help to improve health and well-being of military families and improve the retention rate of current serving members (Rossiter & Ling, 2022).

Studies also found frequent relocation and deployment may influence social connection to the wider society and impact the social support of military families (Smith-Marek et al., 2016). Social connection barries in military life have been identified (Mailey et al., 2018), through the transient lifestyle of military families who often move every 2 to 3 years, leaving some military spouses to report feeling discouraged about getting to know others since they would likely have to start over again in the near future. A military community service program supporting military spouses or families to build networks and maintain social relationships across relocations may strengthen mental and physical health within military families. Alternatively, policy may consider the evidence for less transition for military personnel with dependent families, to enable time to build and maintain critical social networks.

### Socioeconomic outcomes and IPV in military families

Risks for use of intimate partner violence (IPV) within military families may share some characteristics with IPV in civilians. Younger age and lower level of education were found to be significant risk factors for the use of IPV (Evans et al., 1980). Military families were generally younger compared to civilian families within the studies, contributing to higher variance rate of IPV in military families, compared to civilian families. Hoyt et al. (2014) used the matched sample in the USA to include the civilian group with same age, ethnicity, education, or marital status with military groups (worth noting that the proportions of currently serving members were not distinguished from veterans in the military group), and the authors still found that male military members reported higher prevalence of using IPV compared with their civilian counterparts.

Many military spouses are required to relocate with their partners and are unable to achieve career advancement with the majority working in part-time or low-wage roles. Over time, some are placed in a position of social isolation and economic dependence due to their partner's service, and further experienced financial abuse (Adejimi, Sekoni, & Fawole, 2022). Additionally, family stressors arise with the challenges of redefining power relationships within the family after long periods of separation during deployments (Asbury & Martin, 2011; Pollard & Ferguson, 2020). Providing more social support and education to assist with military member-family reintegration following periods of separation may

help to improve family relationship and stress, and reduce the IPV rate in military families.

### Limitations

The findings of this rapid review are to be interpreted within the context of study limitations. A rapid review methodology represents an abbreviated version of systematic review methods to synthesise and generate research evidence in a short period of time; hence this search was confined to four databases, and precluded searching of grey and ancillary literature. Our inclusion criteria excluded research outputs such as doctoral theses or reports. The criteria for sample inclusion in this study were restricted for current-serving members and a general population comparison group and publication date of studies was limited to the past 20 years. This may have led to omission of some relevant research on socioeconomic stress for civilian and military groups.

## 6. Conclusion

This rapid review highlights key socio-economic stressors for military spouses, including considerably lower employment rates and weekly earnings compared with civilian spouses. Young age of the serving member and decline in health status were both associated with higher prevalence of intimate partner violence in military families compared with civilian families. These factors were strongly correlated with low retention of military members and compromised mental and health well-being in military families. Furthermore, future studies on the comparison of military and civilian's social and family network quality are warranted.

Prevention strategies, including those targeting educational opportunities, career choices, and employment support for military spouses, social and housing support, and social networks may contribute to the health and wellbeing, as well as economic status of military families, which may consequently support retention of military members.

## Funding Sources/Sponsors

## Data Availability Statement (DAS)

The authors confirm that the data supporting the findings of this study are available within the articles reviewed in this study and its supplementary materials.

## Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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# Appendix

**Table A1.** Quality assessment for the studies included in the review

| Author (Year) Country | Patton et al. (2017) USA | Merrill et al. (2005) USA | Meadows et al. (2015) USA | Chimah et al. (2015) Nigeria | Adejimi et al. (2021) Nigeria |
|---|---|---|---|---|---|
| 1. Were the groups comparable other than the presence or absence of service/deployment in controls? | 0 | N/A | 0.5 | 0 | 0 |
| 2. Were cases and controls matched appropriately? | 0 | N/A | 0.5 | 0 | N/A |
| 3. Were the same criteria used for identification of cases and controls? | 1 | N/A | 1 | 1 | N/A |
| 4. Was exposure measured in a standard, valid and reliable way? | 0 | N/A | 0.5 | 0.5 | 1 |
| 5. Was exposure measured in the same way for cases and controls? | 1 | 0 | 0.5 | 1 | N/A |
| 6. Were confounding variables identified? | N/A | 1 | 1 | 0 | 0.5 |
| 7. Were strategies to deal with confounding variables stated? | N/A | 0 | 1 | 0 | 0.5 |
| 8. Were outcomes assessed in a standard, valid and reliable way for cases and controls? | 1 | 1 | 1 | 0 | 0.5 |
| 9. Was the exposure period of interest long enough to be meaningful? | N/A | 1 | N/A | N/A | N/A |
| 10. Was appropriate statistical analysis used? | 1 | 0 | 0 | 0 | 0.5 |
| *Overall score* | *3* | *3* | *6* | *2.5* | *3* |
| *Risk of bias* | *High* | *High* | *Moderate* | *High* | *High* |

Please note: 1 = Yes; .05 = Unclear; 0 = No; N/A = Not applicable. JBI Critical Appraisal Checklist for Case Control Studies was used to assess the quality of the reviewed studies. Risk of bias are low (7 - 10), moderate (4 - 6) and high (0 - 3).

## Detailed search results in four key databases
## Medline
## Search Strategy:

| # | Search | Results |
|---|---|---|
| 1 | Military Personnel/ | 42,485 |
| 2 | milita*.mp. [mp = title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms] | 97,705 |

**Continued**

| | | |
|---|---|---:|
| 3 | soldier*.mp. [mp = title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms] | 11,767 |
| 4 | officer*.mp. [mp = title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms] | 22,606 |
| 5 | infantry.mp. [mp = title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms] | 557 |
| 6 | defen#e.mp. [mp = title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms] | 155,254 |
| 7 | arm*.mp. [mp = title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms] | 306,439 |
| 8 | navy.mp. [mp = title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms] | 4617 |
| 9 | air force*.mp. [mp = title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms] | 4193 |
| 10 | armed service*.mp. [mp = title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms] | 279 |
| 11 | marine.mp. [mp = title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms] | 110,380 |

**Continued**

| | | |
|---|---|---|
| 12 | combat*.mp. [mp = title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms] | 56,704 |
| 13 | armed force*.mp. [mp = title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms] | 6970 |
| 14 | 1 or 2 or 3 or 4 or 5 or 6 or 7 or 8 or 9 or 10 or 11 or 12 or 13 | 713,133 |
| 15 | Spouses/ | 11,088 |
| 16 | spouse.mp. [mp = title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms] | 17,207 |
| 17 | husband.mp. [mp = title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms] | 6687 |
| 18 | wife.mp. [mp = title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms] | 6034 |
| 19 | de facto.mp. [mp = title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms] | 1909 |
| 20 | partner.mp. [mp = title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms] | 84,032 |
| 21 | spousal partner.mp. [mp = title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms] | 41 |
| 22 | accompanied.mp. [mp = title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms] | 279,391 |

**Continued**

| 23 | 15 or 16 or 17 or 18 or 19 or 20 or 21 or 22 | 390,637 |
| 24 | serv*.mp. [mp = title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms] | 1,600,525 |
| 25 | deploy*.mp. [mp = title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms] | 61,395 |
| 26 | enlist*.mp. [mp = title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms] | 4147 |
| 27 | duty.mp. [mp = title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms] | 26,189 |
| 28 | post*.mp. [mp = title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms] | 3,141,907 |
| 29 | station*.mp. [mp = title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms] | 105,013 |
| 30 | assign*.mp. [mp = title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms] | 352,398 |
| 31 | combat.mp. [mp = title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms] | 42,947 |
| 32 | armed service.mp. [mp = title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms] | 30 |

**Continued**

| | | |
|---|---|---|
| 33 | 24 or 25 or 26 or 27 or 28 or 29 or 30 or 31 or 32 | 5,029,317 |
| 34 | education.mp. [mp = title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms] | 985,720 |
| 35 | child protection.mp. [mp = title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms] | 2565 |
| 36 | family court.mp. [mp = title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms] | 213 |
| 37 | crim*.mp. [mp = title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms] | 71,706 |
| 38 | violence.mp. [mp = title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms] | 73,773 |
| 39 | disadvantage*.mp. [mp = title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms] | 86,136 |
| 40 | household income.mp. [mp = title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms] | 11,266 |
| 41 | family income.mp. [mp = title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms] | 7251 |
| 42 | spous* employment.mp. [mp = title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms] | 50 |

**Continued**

| 43 | occupation.mp. [mp = title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms] | 35,145 |
|---|---|---|
| 44 | job.mp. [mp = title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms] | 88,445 |
| 45 | community participat*.mp. [mp = title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms] | 21,044 |
| 46 | civic involve*.mp. [mp = title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms] | 35 |
| 47 | civic work.mp. [mp = title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms] | 0 |
| 48 | social support.mp. [mp = title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms] | 99,044 |
| 49 | social quality.mp. [mp = title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms] | 163 |
| 50 | community support.mp. [mp = title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms] | 2422 |
| 51 | community engagement.mp. [mp = title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms] | 3844 |

Continued

| 52 | community club.mp. [mp = title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms] | 22 |
|---|---|---|
| 53 | 34 or 35 or 36 or 37 or 38 or 39 or 40 or 41 or 42 or 43 or 44 or 45 or 46 or 47 or 48 or 49 or 50 or 51 or 52 | 1,381,502 |
| 54 | 14 and 23 and 33 and 53 | 825 |
| 55 | limit 54 to yr = "2000-Current" | 715 |

## PsycINFO
## Search Strategy:

| # ▲ | Searches | Results |
|---|---|---|
| 1 | exp Military Personnel/ | 32,710 |
| 2 | milita*.mp. [mp = title, abstract, heading word, table of contents, key concepts, original title, tests & measures, mesh word] | 50,513 |
| 3 | soldier*.mp. [mp = title, abstract, heading word, table of contents, key concepts, original title, tests & measures, mesh word] | 7573 |
| 4 | officer*.mp. [mp = title, abstract, heading word, table of contents, key concepts, original title, tests & measures, mesh word] | 21,199 |
| 5 | infantry.mp. [mp = title, abstract, heading word, table of contents, key concepts, original title, tests & measures, mesh word] | 306 |
| 6 | defen#e.mp. [mp = title, abstract, heading word, table of contents, key concepts, original title, tests & measures, mesh word] | 42,646 |
| 7 | arm*.mp. [mp = title, abstract, heading word, table of contents, key concepts, original title, tests & measures, mesh word] | 48,829 |
| 8 | navy.mp. [mp = title, abstract, heading word, table of contents, key concepts, original title, tests & measures, mesh word] | 3096 |
| 9 | air force*.mp. [mp = title, abstract, heading word, table of contents, key concepts, original title, tests & measures, mesh word] | 3183 |
| 10 | armed service*.mp. [mp = title, abstract, heading word, table of contents, key concepts, original title, tests & measures, mesh word] | 676 |
| 11 | marine.mp. [mp = title, abstract, heading word, table of contents, key concepts, original title, tests & measures, mesh word] | 2678 |
| 12 | combat*.mp. [mp = title, abstract, heading word, table of contents, key concepts, original title, tests & measures, mesh word] | 20,196 |
| 13 | armed force*.mp. [mp = title, abstract, heading word, table of contents, key concepts, original title, tests & measures, mesh word] | 2152 |
| 14 | 1 or 2 or 3 or 4 or 5 or 6 or 7 or 8 or 9 or 10 or 11 or 12 or 13 | 164,940 |
| 15 | exp Spouses/ | 16,448 |

**Continued**

| 16 | spouse.mp. [mp = title, abstract, heading word, table of contents, key concepts, original title, tests & measures, mesh word] | 15,456 |
|---|---|---|
| 17 | husband.mp. [mp = title, abstract, heading word, table of contents, key concepts, original title, tests & measures, mesh word] | 6578 |
| 18 | wife.mp. [mp = title, abstract, heading word, table of contents, key concepts, original title, tests & measures, mesh word] | 7937 |
| 19 | de facto.mp. [mp = title, abstract, heading word, table of contents, key concepts, original title, tests & measures, mesh word] | 1074 |
| 20 | partner.mp. [mp = title, abstract, heading word, table of contents, key concepts, original title, tests & measures, mesh word] | 57,955 |
| 21 | spousal partner.mp. [mp = title, abstract, heading word, table of contents, key concepts, original title, tests & measures, mesh word] | 43 |
| 22 | accompanied.mp. [mp = title, abstract, heading word, table of contents, key concepts, original title, tests & measures, mesh word] | 35,256 |
| 23 | 15 or 16 or 17 or 18 or 19 or 20 or 21 or 22 | 122,656 |
| 24 | serv*.mp. [mp = title, abstract, heading word, table of contents, key concepts, original title, tests & measures, mesh word] | 559,215 |
| 25 | deploy*.mp. [mp = title, abstract, heading word, table of contents, key concepts, original title, tests & measures, mesh word] | 18,353 |
| 26 | enlist*.mp. [mp = title, abstract, heading word, table of contents, key concepts, original title, tests & measures, mesh word] | 3995 |
| 27 | duty.mp. [mp = title, abstract, heading word, table of contents, key concepts, original title, tests & measures, mesh word] | 11,538 |
| 28 | post*.mp. [mp = title, abstract, heading word, table of contents, key concepts, original title, tests & measures, mesh word] | 471,775 |
| 29 | station*.mp. [mp = title, abstract, heading word, table of contents, key concepts, original title, tests & measures, mesh word] | 13,238 |
| 30 | assign*.mp. [mp = title, abstract, heading word, table of contents, key concepts, original title, tests & measures, mesh word] | 104,611 |
| 31 | combat.mp. [mp = title, abstract, heading word, table of contents, key concepts, original title, tests & measures, mesh word] | 16,456 |
| 32 | armed service.mp. [mp = title, abstract, heading word, table of contents, key concepts, original title, tests & measures, mesh word] | 28 |
| 33 | 24 or 25 or 26 or 27 or 28 or 29 or 30 or 31 or 32 | 1,084,655 |
| 34 | education.mp. [mp = title, abstract, heading word, table of contents, key concepts, original title, tests & measures, mesh word] | 534,212 |
| 35 | child protection.mp. [mp = title, abstract, heading word, table of contents, key concepts, original title, tests & measures, mesh word] | 4947 |
| 36 | family court.mp. [mp = title, abstract, heading word, table of contents, key concepts, original title, tests & measures, mesh word] | 1052 |

**Continued**

| | | |
|---|---|---|
| 37 | crim*.mp. [mp = title, abstract, heading word, table of contents, key concepts, original title, tests & measures, mesh word] | 103,553 |
| 38 | violence.mp. [mp = title, abstract, heading word, table of contents, key concepts, original title, tests & measures, mesh word] | 97,869 |
| 39 | disadvantage*.mp. [mp = title, abstract, heading word, table of contents, key concepts, original title, tests & measures, mesh word] | 37,672 |
| 40 | household income.mp. [mp = title, abstract, heading word, table of contents, key concepts, original title, tests & measures, mesh word] | 4251 |
| 41 | family income.mp. [mp = title, abstract, heading word, table of contents, key concepts, original title, tests & measures, mesh word] | 4055 |
| 42 | spous* employment.mp. [mp = title, abstract, heading word, table of contents, key concepts, original title, tests & measures, mesh word] | 63 |
| 43 | occupation.mp. [mp = title, abstract, heading word, table of contents, key concepts, original title, tests & measures, mesh word] | 16,619 |
| 44 | job.mp. [mp = title, abstract, heading word, table of contents, key concepts, original title, tests & measures, mesh word] | 113,708 |
| 45 | community participat*.mp. [mp = title, abstract, heading word, table of contents, key concepts, original title, tests & measures, mesh word] | 2640 |
| 46 | civic involve*.mp. [mp = title, abstract, heading word, table of contents, key concepts, original title, tests & measures, mesh word] | 126 |
| 47 | civic work.mp. [mp = title, abstract, heading word, table of contents, key concepts, original title, tests & measures, mesh word] | 10 |
| 48 | social support.mp. [mp = title, abstract, heading word, table of contents, key concepts, original title, tests & measures, mesh word] | 87,830 |
| 49 | social quality.mp. [mp = title, abstract, heading word, table of contents, key concepts, original title, tests & measures, mesh word] | 141 |
| 50 | community support.mp. [mp = title, abstract, heading word, table of contents, key concepts, original title, tests & measures, mesh word] | 2578 |
| 51 | community engagement.mp. [mp = title, abstract, heading word, table of contents, key concepts, original title, tests & measures, mesh word] | 2113 |
| 52 | community club.mp. [mp = title, abstract, heading word, table of contents, key concepts, original title, tests & measures, mesh word] | 20 |
| 53 | 34 or 35 or 36 or 37 or 38 or 39 or 40 or 41 or 42 or 43 or 44 or 45 or 46 or 47 or 48 or 49 or 50 or 51 or 52 | 913,438 |
| 54 | 14 and 23 and 33 and 53 | 1143 |
| 55 | limit 54 to yr = "2000-Current" | 1005 |

## CINAHL
## Search Strategy:

| | | |
|---|---|---|
| S11 | S3 AND S4 AND S6 AND S9 | **Limiters**—Published Date: 20000101-20221231<br>**Expanders**—Apply equivalent subjects<br>**Search modes**—Boolean/Phrase | (808) |

**Continued**

| S10 | S3 AND S4 AND S6 AND S9 | **Expanders**—Apply equivalent subjects<br>**Search modes**—Boolean/Phrase | (846) |
|---|---|---|---|
| S9 | S7 OR S8 | **Expanders**—Apply equivalent subjects<br>**Search modes**—Boolean/Phrase | (1,004,593) |
| S8 | Civic involve* OR Civic work OR Social support OR Social quality OR Community support OR Community engagement OR Community club | **Expanders**—Apply equivalent subjects<br>**Search modes**—Boolean/Phrase | (74,959) |
| S7 | Education OR Child protection OR Family court OR Crim* OR Violence OR Disadvantage* OR Household income OR Family income OR Spous* employment OR Occupation OR Job OR Community participat* | **Expanders**—Apply equivalent subjects<br>**Search modes**—Boolean/Phrase | (951,020) |
| S6 | Serv* OR Deploy* OR Enlist* OR Duty OR Post* OR Station* OR Assign* OR Combat OR Armed service | **Expanders**—Apply equivalent subjects<br>**Search modes**—Boolean/Phrase | (1,599,731) |
| S5 | MW Spouse | **Expanders**—Apply equivalent subjects<br>**Search modes**—Boolean/Phrase | (0) |
| S4 | Spouse OR Husband OR Wife OR De facto OR Partner OR Spousal partner OR Accompanied | **Expanders**—Apply equivalent subjects<br>**Search modes**—Boolean/Phrase | (111,057) |
| S3 | S1 OR S2 | **Expanders**—Apply equivalent subjects<br>**Search modes**—Boolean/Phrase | (175,536) |
| S2 | MW Military personnel | **Expanders**—Apply equivalent subjects<br>**Search modes**—Boolean/Phrase | (17,016) |
| S1 | Milita* OR Soldier* OR Officer* OR Infantry OR Defen*e OR Arm* OR Navy OR Air force* OR Armed service* OR Marine OR Combat* OR Armed force* | **Expanders**—Apply equivalent subjects<br>**Search modes**—Boolean/Phrase | (175,536) |

**ProQuest Central**

**Search Strategy:**

((noft (milita*) OR noft (soldier*) OR noft (officer*) OR noft (infantry) OR noft (defen?e) OR noft (arm*) OR noft (navy) OR noft (air force*) OR noft (armed service*) OR noft (marine)) AND (noft (combat*) OR noft (armed force*) OR mainsubject (military personnel))) AND (noft (spouse) OR noft (husband) OR

noft (wife) OR noft (de facto) OR noft (partner) OR noft (spousal partner) OR noft (accompained) OR mainsubject (Spouse)) AND (noft (serv*) OR noft (deploy*) OR noft (enlist*) OR noft (duty) OR noft (post*) OR noft (station*) OR noft (assign*) OR noft (combat) OR noft (armed service)) AND ((noft (education) OR noft (child protection) OR noft (family court) OR noft (crim*) OR noft (violence) OR noft (disadvantage*) OR noft (houshold income) OR noft (family income) OR noft (spous* employment) OR noft (occupation)) OR (noft (job) OR noft (community participat*) OR noft (civic involve*) OR noft (civic work) OR noft (social support) OR noft (social quality) OR noft (community support) OR noft (community engagement) OR noft (community club))); Limit 2000-01-01-2022-02-28; scholarly journals