

FAMILY VIOLENCE IN THE MILITARY

A Review of the Literature

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Family violence, including both child maltreatment and spouse abuse, is a public health concern in both military and civilian populations. However, there is limited knowledge concerning violence in military families relative to civilian families. This literature review critically reviews studies that examine child maltreatment and spouse abuse among military families and compares family violence in military versus nonmilitary populations. Physical abuse and neglect compose the majority of the reported and substantiated cases of child maltreatment in military families, followed by sexual abuse and emotional abuse. On the other hand, physical abuse represents more than 90% of all substantiated cases of spouse abuse in military families, followed by emotional abuse, neglect, and sexual abuse. Mixed results were found when comparing military and nonmilitary families in terms of child maltreatment and spouse abuse, in part because of a lack of consistency in policies and practices between military and civilian agencies.

Key words: *Air Force, Army, child maltreatment, family violence, Marine Corps, military, Navy, spouse abuse*

FAMILY VIOLENCE, including both child maltreatment and spouse abuse, is a public health concern in both military and civilian populations. Though child maltreatment and spouse abuse can often occur simultaneously in fami-

lies, the federal government has generally addressed the problems separately. The U.S. government first focused on child maltreatment when Congress passed the Child Abuse Prevention and Treatment Act (1974). This act estab-

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KEY POINTS OF THE RESEARCH REVIEW

- Few studies exist that examine family violence in military families and even fewer that compare family violence in military and civilian populations.
- Physical abuse and neglect are the most common forms of substantiated child maltreatment in military families, followed by sexual abuse and emotional abuse.
- Physical abuse is the most common form of substantiated spouse abuse in military families.
- Studies comparing military and nonmilitary families in terms of child maltreatment or spouse abuse show mixed results, with some reporting higher rates in the military and others finding lower rates in the military.

lished the National Center on Child Abuse and Neglect and provided financial assistance for a demonstration program for the prevention, identification, and treatment of child abuse and neglect. The bill was amended in 1988, creating a national clearinghouse for child abuse and

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neglect information and a national data collection and analysis program focused on state child abuse and neglect reports (Child Abuse Prevention and Treatment Act, 1988). As a result, the National Child Abuse and Neglect Data System annually collects and analyzes data voluntarily submitted by the states and the District of Columbia concerning child abuse and neglect known to child protective services agencies within

each state (U.S. Department of Health and Human Services, 2004).

Unlike child maltreatment surveillance, there is no national surveillance system in place to track domestic violence. The federal government did, however, pass the National Violence Against Women Act in 1994. This was the first comprehensive federal legislation responding to violence against women (Violent Crime Control and Law Enforcement Act, 1994). The act created new penalties for gender-related vio-

lence and new grant programs encouraging states to address domestic violence and sexual assault (Family Violence Prevention Fund, 2005). Currently, the main sources for national statistics on violence against women and men are population-based surveys, such as the National Violence Against Women Survey (Tjaden & Thoennes, 1998) and the National Family Violence Surveys (Straus, Gelles, & Steinmetz, 1988). The National Violence Against Women survey, conducted from November 1995 to May 1996, sampled both women and men to provide data on the prevalence, incidence, and consequences of various types of violence. The National Family Violence Surveys, conducted in 1975 and 1985, collected information concerning violence between family members, including adult-to-adult violence and adult-to-child violence.

The Department of Defense has taken a clear stance against family violence. In 1981, Department of Defense Directive 6400.1 required each branch of military service (Army, Navy, Air Force, and Marine Corps) to establish (a) a Family Advocacy Program to prevent and treat child maltreatment and spouse abuse and (b) a confidential central registry to collect and analyze Family Advocacy Program data (Department of Defense, 1981). Suspected incidents of child maltreatment and/or spouse abuse in military families are referred to Family Advocacy Programs where a case review committee, composed of a multidisciplinary team of designated individuals working at the military installation level, is tasked with the evaluation and determination of abuse and/or neglect and the development and coordination of treatment and disposition recommendations (Mollerstrom, Patchner, & Milner, 1992). All substantiated and unsubstantiated cases are then entered into a confidential central registry in accordance with the directive.

It is unclear whether or not family violence would be more common among military families than among civilian families. Family violence may be more common in the military population compared to the civilian population because of higher overall stress levels associated with the military lifestyle (e.g., frequent separations, long work hours, dangerous work

environment, etc.). Soldiers are subject to deployments and relocations that can often lead to a separation from peers and community support networks. Frequent and extensive separations may have a profound impact on marriages, particularly those of short duration, because they present a window of opportunity for the spouse left behind to explore independence and develop other relationships. For those relocated to installations located outside of the continental United States, social and cultural isolation is fairly common (Prier & Gulley, 1987). On the other hand, there are a number of protective factors unique to the military lifestyle that could reduce the amount of family violence. The discovery of fairly severe problems, including criminal conduct, mental health problems, and drug and alcohol abuse, are cause for the punishment or discharge of soldiers from the military (Raiha & Soma, 1997). The military family has health care, housing provided or funded by the government, and access to many family support programs (McCarroll, Ursano, Fan, & Newby, 2004b), which likely mediate against many variables associated with poverty and drug abuse in the civilian population. The service structure of Family Advocacy Programs, which house child maltreatment and spouse abuse providers under one agency, may also increase the likelihood of identification of both types of abuse and reduce recidivism rates. For families with children, having at least one employed parent who is able to function effectively in a structured environment and is required to pass literacy and aptitude tests may also be viewed as a protective factor for child maltreatment (Raiha & Soma, 1997).

Arguments concerning whether the military families are at a higher or lower risk of family violence may persist because there has been limited research concerning the extent of family violence in military populations and how family violence in military populations compares to nonmilitary populations. The purpose of this literature review is to address these issues by (a) critically reviewing studies that examine the types of child maltreatment and spouse abuse reported among military families and (b) comparing the extent of family violence in military versus nonmilitary populations.

LITERATURE REVIEW METHOD

Search Strategy

Peer-reviewed journals were searched for relevant articles using a systematic approach. Five databases were included in the search: Medline, Ovid, Science Citation Index–Expanded, Social Sciences Citation Index, and Arts and Humanities Citation Index. Keywords describing the military and either child maltreatment or spouse abuse were used to search titles, abstracts, and within the text of articles, regardless of publication year. In addition to database searches, reference lists of identified pertinent articles were examined, and experts provided information concerning the inclusion of additional studies. A total of 103 studies concerning child maltreatment were located, and 32 studies concerning spouse abuse were found.

Inclusion Criteria

Two sets of criteria, one for studies of various types of child maltreatment and spouse abuse in military families and one for studies comparing military and civilian populations, were used to assess whether each study was eligible for review. Studies were eligible for the first type of review if (a) the study population consisted of children in military families or married military couples; (b) the primary focus of the research included physical abuse, sexual abuse, emotional abuse, or neglect; and (c) information was included concerning the distribution of types of child maltreatment or spouse abuse seen in military families (i.e., the prevalence of various types of abuse). A total of 16 studies met the inclusion criteria; however, 1 study (Mollerstrom et al., 1992) was excluded because the same information was included in a larger study published by the same authors. In all, 11 of these studies examined child maltreatment, 3 examined spouse abuse, and 1 focused on the co-occurrence of spouse abuse and child maltreatment in military families.

Studies comparing child maltreatment or spouse abuse in military and civilian populations were included in the review if (a) the study population consisted of children in military and

civilian families or married military and civilian couples, (b) the primary research focus was either a form of abuse or neglect, and (c) the authors compared the extent of child maltreatment or spouse abuse in military and civilian populations. Nine studies met the inclusion criteria; six examined child maltreatment and three examined spouse abuse. No studies that compared child maltreatment and spouse abuse simultaneously in military and civilian populations were found.

RESULTS

Types of Child Maltreatment in Military Families

Table 1 summarizes information from 11 studies that examined the distribution of four types of child maltreatment (physical abuse, sexual abuse, emotional abuse, and neglect) among military families. All four branches of the military were studied, including six studies of the Army, three of the Air Force, and one of the Navy and Marine Corps. One study included all military in Hawaii. Five studies examined all child abuse and neglect cases that were reported (both substantiated and unsubstantiated), whereas the remaining six studies focused only on substantiated cases. The study samples came from various sources, including records from military hospitals and Family Advocacy Program central registries.

Physical abuse appears to be the most common type of child maltreatment in military families (Table 1), with 31.3% to 70.8% of all child maltreatment cases being this type of abuse. Though the range is wide, once methodological differences are accounted for, the percentages become much more similar among studies. For example, the studies that found a high percentage of physical abuse (more than 50% of all child maltreatment cases) used reported rather than substantiated maltreatment cases (Acord, 1977; Myers, 1979; James, James, Furukawa, & Mangelsdorff, 1984). Studies examining only substantiated maltreatment report that 31.3% to 46.4% of cases were substantiated for physical abuse, reflecting the fact that many more cases

of child maltreatment are reported than are actually substantiated.

Like child physical abuse, child neglect is also a common form of child maltreatment in military families, accounting for 18.5% to 50.0% of the child maltreatment in the 11 study samples. The smallest percentages (18.5% and 23.0%) were reported by Myers (1979) and Acord (1977), respectively. Both of these authors studied samples that consisted of suspected or alleged child maltreatment cases rather than substantiated cases. Acord noted that the low prevalence of neglect is likely a function of the lack of both the visibility of neglect and a clear neglect definition. Although Wichlacz, Randall, Nelson, and Kempe (1975) found a much higher percentage of neglect (50.0%) among all substantiated abuse cases in military families, this result is limited by a small study ($N = 36$) that consisted of data collected before the establishment of central registries. Examining only studies with large sample sizes of substantiated cases finds that the range for child neglect among all substantiated child maltreatment cases in military families becomes smaller (35.0%-48.4%).

Child sexual abuse is one of the least common types of child maltreatment found in military families. Sexual abuse accounted for 6.1% to 17.8% of all the child maltreatment found in military families. The range remains similar when considering only those studies focused on substantiated sexual abuse cases in military families (6.7%-17.0%).

Child emotional abuse in military families was first studied by Dubanoski and McIntosh in 1984, which also marks the beginning of research focused on substantiated cases of child maltreatment, as opposed to reported or alleged maltreatment. For the six studies reporting emotional abuse in military families, the percentage of emotional abuse among all child maltreatment cases ranged from 0.7% to 15.6%. Emotional abuse is the least common form of abuse or neglect found in 5 of the 6 reporting studies, with the only exception being Army Central Registry data from 1999 (McCarroll et al., 2004b), in which emotional abuse accounted for 15.6% of all child maltreatment cases, the highest of any published study.

TABLE 1: Types of Child Maltreatment Among Military Families With Reported or Substantiated Maltreatment

<i>Author</i>	<i>Study Sample</i>	<i>Method</i>	<i>Results</i>			
			<i>Percentage of Physical Abuse</i>	<i>Percentage of Neglect</i>	<i>Percentage of Sexual Abuse</i>	<i>Percentage of Emotional Abuse</i>
Wichlacz, Randall, Nelson, and Kempe (1975) ^{a,b}	56 suspected cases brought to the Child Abuse and Neglect Board at a U.S. Army General Hospital in Germany between July 1, 1971, and June 30, 1972, representing 36 maltreatments.	Divided number of substantiated cases of each type of child maltreatment by total number of maltreatments (denominator = 36).	38.9	50.0	11.1	—
Acord (1977) ^b	430 suspected reports of child abuse and neglect involving Navy and Marine Corps personnel submitted by naval medical facilities for the years 1974 and 1975 representing 408 maltreatments.	Divided number of suspected incidents of each type of child maltreatment by total number of maltreatments (denominator = 408).	70.8	23.0	6.1	—
Myers (1979) ^{b,d}	1,328 suspected child abuse cases in the Air Force Office of Special Investigations database from 1975 to 1977 representing 1,288 maltreatments.	Divided sum of suspected incidents of each type of child maltreatment across all years by overall total number of maltreatments (denominator = 1,288).	63.7	18.5	17.8	—
Wardinsky and Kirby (1981)	158 reported cases brought to the Air Force Child Advocacy Committee from April 1, 1975, through September 1977 representing 158 maltreatments.	Divided number of reported cases of each type of child maltreatment by total number of maltreatments (denominator = 158).	58.9	34.2	7.0	—
James, James, Furukawa, and Mangelsdorff (1984) ^{a,b,c}	Representative sample of 1,126 alleged cases of child abuse and neglect from October 1, 1978, to December 31, 1980, found in the Army Central Registry representing 1,077 maltreatments.	Divided number of alleged cases of each type of child maltreatment by total number of alleged cases (denominator = 1,077).	50.6	46.7	10.8	—
Dubanoski and McIntosh (1984) ^a	403 substantiated cases of child abuse and neglect in Caucasian families during the period of January 1978 to February 1981 involving military personnel in Hawaii, representing 403 types of maltreatment.	Divided number of confirmed cases of each type of child maltreatment by the total number of maltreatments (denominator = 403).	46.4	46.2	6.7	0.7
Mollerstrom, Patchner, and Milner (1995) ^{a,b,d,e}	19,587 substantiated child abuse and neglect cases in the U.S. Air Force central registry for fiscal years 1987 through 1992 representing 19,269 total maltreatments.	Divided sum of substantiated incidents of each type of child maltreatment across all years by overall total number of maltreatments (denominator = 19,269).	40.6	35.0	14.9	9.4

(continued)

TABLE 1 (continued)

Author	Study Sample	Method	Results		
			Percentage of Physical Abuse	Percentage of Neglect	Percentage of Sexual Abuse Percentage of Emotional Abuse
Raiha and Soma (1997) ^{a,b,c}	8,442 substantiated child maltreatment cases involving active duty Army families that were reported to the Army Central Registry in 1992 and 1993 representing 9,040 total maltreatments.	Divided sum of substantiated incidents of each type of child maltreatment across all years by overall total number of maltreatments (denominator = 8,422).	41.6	39.3	17.0 9.5
McCarroll, Newby, and Thayer (1999) ^{c,d}	62,641 cases of initial substantiated child abuse in the Army Central Registry from 1975 to 1997 representing 66,288 total maltreatments.	Divided sum of substantiated incidents of each type of child maltreatment across all years by overall total number of maltreatments (denominator = 62,641).	41.4	44.4	11.7 8.3
McCarroll, Ursano, Fan, and Newby (2004a)	3,422 substantiated cases of child maltreatment from U.S. Army Family Advocacy Program data during 1-year period from 1994 to 1995 representing 3,422 total maltreatments.	Divided number of substantiated cases of each type of child maltreatment by total number of maltreatments (denominator = 3,422).	37.7	39.4	14.3 8.6
McCarroll, Ursano, Fan, and Newby (2004b) ^c	All substantiated Army child abuse cases in 1999.	Divided number of substantiated cases of each type of child maltreatment by total number of substantiated cases.	31.3	48.4	11.7 15.6

a. Overall percentages of types of maltreatment calculated by author (EDR) from original study.

b. Death, other, and unknown abuse type categories not included in total number of maltreatments.

c. Percentages total to more than 100% because of cases involving more than one type of maltreatment.

d. Overall percentage reported for studies that calculated statistics by year for each fiscal year of the study period.

e. Number of substantiated cases includes those with multiple types of maltreatment. However, multiple types are not included in the denominator because not enough information was available to differentiate among the types of maltreatment experienced.

Types of Spouse Abuse in Military Families

There has been less focus on spouse abuse in military families compared to child maltreatment in military families. The three studies presented in Table 2 describe Family Advocacy Program central registry data from the Air Force and the Army. No studies that examined spouse abuse in military families from the Navy or Marine Corps were located.

For both the Air Force and the Army, physical violence was the most frequent form of substantiated spouse abuse in military families, accounting for 89.3% to 92.4% of all spouse abuse across the three studies. Substantiated emotional abuse is less common, accounting for 6.7% of all Air Force spouse abuse and 8.5% to 10.6% of all Army spouse abuse. Very little spousal sexual abuse and/or neglect was found in either the Air Force or the Army central registries. Mollerstrom et al. (1992) report that sexual abuse accounts for only 0.5% and neglect accounts for only 0.4% of all spouse abuse cases substantiated in Air Force families. McCarroll et al. (2004c) found that sexual abuse accounted for only 0.1% of all substantiated spouse abuse in Army families.

Rumm, Cummings, Krauss, Bell, and Rivara (2000) conducted the only investigation that examined both child maltreatment and spouse abuse in military families. The researchers examined six years of data (1989-1995) from the U.S. Army Medical Command central registry. They identified married couples with children in which at least one spouse was on active duty in the U.S. Army. The authors found that, after controlling for age and rank of the military parent, physical child abuse was twice as common when spouse abuse was present in the family ($RR = 2.36$; $95\% CI = 2.23, 2.50$). Child sexual abuse was also more likely among families with spouse abuse ($RR = 1.46$, $95\% CI = 1.25, 1.69$); however, no significant differences were found in the likelihood of child neglect in U.S. Army families with and without identified spouse abuse ($RR = 0.96$, $95\% CI = 0.87, 1.06$). It is unclear whether the association seen between child maltreatment and spouse abuse was a function of more child maltreatment occurring

within families with spouse abuse, increased Family Advocacy Program surveillance for child maltreatment among families with identified spouse abuse, or lack of follow-up for those families with identified spouse abuse that withdrew from the military.

Comparison of Child Maltreatment in Military and Civilian Populations

The six studies presented in Table 3 compared child maltreatment in the military and civilian communities (Dubanoski & McIntosh, 1984; Gessner & Runyan, 1995; McCarroll et al., 2004a, 2004b; North Carolina Child Advocacy Institute, 2004; Raiha & Soma, 1997). Because the aims differed somewhat in each of these studies, the methods used to obtain military and civilian child abuse and neglect data did as well. Dubanoski and McIntosh (1984) examined substantiated cases of child maltreatment in Caucasian military and civilian families that were recorded by the child protective services of Hawaii. Gessner and Runyan (1995) reviewed the medical charts of all infants with a diagnosis of shaken baby syndrome and searched hospital and pediatric intensive care unit (PICU) databases. Raiha and Soma (1997) took their military study sample from a central registry and compared it to existing national statistics reported by the Department of Health and Human Services. McCarroll and colleagues (2004a) compared a sample of substantiated cases from the Army Central Registry to both case-level data from Washington State made available in a national data set and aggregate data from a national data set. And finally, the North Carolina Child Advocacy Institute (2004) examined military and civilian child fatalities from the North Carolina Medical Examiner's database.

The six studies found mixed results when comparing child maltreatment in military and nonmilitary samples. Two studies suggested that child abuse and neglect were more com-

Rumm, Cummings, Krauss, Bell, and Rivara (2000) conducted the only investigation that examined both child maltreatment and spouse abuse in military families.

(continued on pg. 103)

TABLE 2: Types of Spouse Abuse Seen Among Military Families in Substantiated Cases of Maltreatment

Author	Study Sample	Method	Results			
			Percentage of Physical Abuse	Percentage of Emotional Abuse	Percentage of Sexual Abuse	Percentage of Neglect
Mollerstrom, Patchner, and Milner (1992) ^a	5,873 substantiated spouse abuse reports in the Air Force central registry for 1988 and 1989 calendar years.	Counted number of each type of incident and divided by the total number of spouse abuse cases (denominator = 5,873).	92.4	6.7	0.5	0.4
McCarroll, Newby, Thayer, et al. (1999) ^{b,c}	61,827 initial substantiated cases of spouse abuse entered into the Army Central Registry from 1989 to 1997.	Counted number of each type of incident and divided by the total number of spouse abuse cases (denominator = 61,827).	96.4	8.5	—	—
McCarroll, Ursano, Fan, and Newby (2004c)	31,583 initial substantiated cases of spouse abuse entered into the Army Central Registry from 1988 to 2000.	Counted number of each type of incident and divided by the total number of spouse abuse cases (denominator = 31,583).	89.3	10.6	0.1	—

a. Overall percentages for 1988 and 1989 calculated by author (EDR) from original study.

b. Percentages total to more than 100% because of cases involving more than one type of maltreatment.

c. Overall physical abuse reported. Original author differentiated between major physical abuse (2.8%) and minor physical abuse (93.6%).

TABLE 3: Extent of Child Maltreatment in Military Versus Nonmilitary Populations

<i>Author</i>	<i>Purpose</i>	<i>Study Sample</i>	<i>Method</i>	<i>Results</i>
Dubanoski and McIntosh (1984)	To compare military and civilian families who abused and neglected their children.	All confirmed cases of child maltreatment in military and civilian Caucasian families from the Hawaii child protective services database during the period of January 1978 to February 1981.	Cases were compared based on sources of referral, types of maltreatment, characteristics of the victim and perpetrator, and stress factors.	Military families reported significantly less psychological abuse, threat of abuse, educational neglect, psychological neglect, and abandonment than did civilian families. No significant differences were found between military and civilian families for physical abuse or sexual abuse.
Gessner and Runyan (1995)	To investigate whether military dependents were overrepresented among children hospitalized with shaken baby syndrome and if their pattern of injury or outcomes differed from those of children in the civilian population.	All 22 infants with diagnosis of shaken baby syndrome between January 1, 1989, and February 28, 1993, at University of North Carolina Hospitals, Chapel Hill, and 480 children younger than 2 years of age admitted to the pediatric intensive care unit (PICU) for any cause identified in the hospital and PICU databases.	Charts were reviewed by physicians to corroborate diagnosis. Odds ratios comparing military dependents to nonmilitary dependents admitted to PICU were calculated.	Military dependents younger than 1 were 3.45 times more likely than were nonmilitary dependents to be PICU admissions and 6.7 times more likely for children younger than 2.
Raiha and Soma (1997)	To estimate child maltreatment victim rates in the U.S. Army and to contrast them with existing child maltreatment victim rates in the civilian population.	All 8,442 substantiated child maltreatment cases involving active duty Army families which were reported to the Army Family Advocacy Central Registry in 1992 and 1993.	Rates of abuse were estimated from the Army Central Registry data for each type of child maltreatment. Comparison information about child abuse and neglect in the U.S. population was obtained from the National Center on Child Abuse and Neglect's summary reports from the states for years 1992 and 1993.	The overall 1992 and 1993 abuse or neglect rate in the Army population was 7.4 annual cases per 1,000 children, which is substantially lower than the general U.S. population rate of 14 cases per 1,000 children in 1992 and 1993. (Note that the difference between Army and general population rates is primarily because of a neglect rate less than half that found in the general population for 1992; i.e., 2.9 cases vs. 7.7 cases per 1,000 children.)

(continued)

TABLE 3 (continued)

Author	Purpose	Study Sample	Method	Results
McCarroll, Ursano, Fan, and Newby (2004a)	To compare reports of the severity of child maltreatment for the U.S. Army and the civilian jurisdiction of Washington state.	All 3,422 substantiated child maltreatment cases from U.S. Army Central Registry and a representative sample of 4,019 substantiated child maltreatment cases from Washington state during a 1-year period (1994-1995).	Severity of maltreatment was recorded in the Army Central Registry for each substantiated case of maltreatment. However, because severity of maltreatment was not recorded for child maltreatment cases in Washington state database, assessments of the level of severity of maltreatment in Washington state cases were made based on guidelines in Washington State Department of Social and Health Services, Division of Children and Family Services Risk Factor Matrix Guide. These guidelines were similar to those of the Army.	Statistically significant differences exist in the severity of each of the types of maltreatment for the Army and for Washington state ($p < .001$). More cases of physical abuse are classified as severe by the Army (11%) compared to Washington state (5%). However, 16% of Washington state neglect cases were classified severe, compared to 3% of Army cases.
McCarroll, Ursano, Fan, and Newby (2004b)	To compare U.S. Army and civilian substantiated reports of child maltreatment.	All substantiated Army and U.S. child abuse cases from 1995 to 1999 as reported in the Army Central Registry and the National Child Abuse and Neglect Data System, respectively.	The overall rates of child maltreatment were compared for the Army and U.S. civilian populations from 1995 to 1999. For 1999 only, the most recent data available at the time of the analyses, the type of maltreatment by age and sex, the victim rates by race/ethnicity, and the relationship of perpetrator to victim were compared for the Army and U.S. civilian populations.	The overall rates of child maltreatment in the U.S. civilian population (14.7-11.8 per 1,000 children) were about double the Army rates (7.6-6.0 per 1,000 children) from 1995 to 1999. In 1999, the rate of neglect in the Army was half of that in the civilian population (3.1 vs. 6.9 per 1,000 children), whereas similar rates between the Army and civilian populations were found for physical abuse (2.0 vs. 2.5 per 1,000 children), sexual abuse (0.8 vs. 1.3 per 1,000 children), and emotional abuse (1.0 vs. 0.9 per 1,000 children).
North Carolina Child Advocacy Institute (2004)	To calculate and compare rates of child abuse homicides in North Carolina military and nonmilitary families.	All 378 cases of child abuse homicide in children 0 to 10 years of age found in NC medical examiner database from 1985 to 2000.	Homicide cases from the medical examiner database were used to calculate the overall state child abuse homicide rate per year and county-specific rates.	In the period 1985 to 2000 in NC, the annual child abuse homicide rate was 2.2 deaths per 100,000 children ages 0 to 10. In Cumberland and Onslow Counties, home to three of the state's largest military installations, the annual child abuse homicide rate for children of military families during the same 16-year period was 5.0 per 100,000 and 4.9 per 100,000 children ages 0 to 10, respectively.

mon in the military community. Gessner and Runyan (1995) found that of the 22 infants admitted to the PICU with a diagnosis of shaken baby syndrome, 8 (36%) were military dependents and 14 (64%) were civilian dependents. This high proportion of shaken babies within military families was notable because only 39 (9.5%) of all admissions of infants to the PICU for any reason were from military families. The odds for a shaken infant being a military dependent was 3 times the odds of other children admitted to the PICU being military dependents (OR = 3.5; 95% CI = 1.44-8.27). Other researchers analyzing North Carolina medical examiner data from 1985 to 2000 found that the two counties with the largest military installations in North Carolina had high child abuse homicide rates for children of military families under the age of 10 (approximately 5.0 per 100,000 children), compared to the overall state rate of 2.2 deaths per 100,000 children aged 0 to 10 (North Carolina Child Advocacy Institute, 2004).

Two studies found a lower rate of child maltreatment in the military study samples compared to the civilian study samples. Raiha and Soma (1997) contrasted child maltreatment victim rates in the U.S. Army and civilian populations and concluded that the overall rate of child maltreatment appeared to be lower in the Army than the civilian population (7.4 cases vs. 14 cases per 1,000 children). Further, the U.S. Army rate of neglect was less than half of that found in the general population (2.9 cases vs. 7.7 cases per 1,000 children in 1992). McCarroll et al. (2004a) supported Raiha and Soma's conclusion of less abuse and neglect in the military by analyzing substantiated cases of child abuse and neglect in the Army Central Registry and the National Child Abuse and Neglect Data System. The overall rates of child maltreatment in the U.S. civilian population (14.7-11.8 per 1,000 children) were about double the rates of substantiated maltreatment seen in Army families (7.6-6.0 per 1,000 children) from 1995 to 1999. In 1999, the rate of neglect among all substantiated child maltreatment in the Army was half of that in the civilian population (3.1 vs. 6.9 per 1,000 children). The civilian population also had slightly higher rates than did the Army for

physical abuse (2.5 vs. 2.0 per 1,000 children) and sexual abuse (1.3 vs. 0.8 per 1,000 children). Similar rates of emotional abuse were found between the two populations, with a rate of 1.0 per 1,000 children in the Army and 0.9 per 1,000 children in the civilian population.

The remaining two studies (Dubanoski & McIntosh, 1984; McCarroll et al., 2004a) reviewed in Table 3 suggest mixed findings. To remove the effect of ethnicity and race from their analyses, Dubanoski and McIntosh (1984) studied substantiated cases of child maltreatment in Caucasian military and civilian families in the state of Hawaii. They found that the prevalence of most types of abuse was similar between military and civilian families. Military families in the study population experienced significantly less psychological abuse, threat of abuse, educational neglect, psychological neglect, and abandonment; however, no significant differences were found for major or minor physical abuse, sexual abuse, and most forms of neglect. Similarly, McCarroll et al. (2004a) compared the severity of child maltreatment between substantiated cases reported in the Army Central registry and a representative sample of substantiated cases in Washington State and concluded that the Army reported more emotional and physical abuse cases but less neglect. The Army Central Registry contained 3 times the number of emotional abuse cases as did the National Child Abuse and Neglect Data System from Washington State (9% vs. 3%), and the Army also had more reports of severe physical abuse than did Washington State (11% vs. 5%). However, Washington State classified 16% of its neglect cases as severe, compared to only 3% of substantiated cases in the Army.

Comparison of Spouse Abuse in Military and Civilian Populations

The studies in Table 4 compare spouse abuse in military and civilian populations. All three conclude that spouse abuse is more prevalent and more severe in military families compared to civilian families. Two studies interviewed couples (Griffin & Morgan, 1988; Heyman & Neidig, 1999), whereas one study collected data from dependents of military personnel and ci-

TABLE 4: Extent of Spouse Abuse in Military Versus Nonmilitary Populations

Author	Purpose	Study Sample	Method	Results
Griffin and Morgan (1988)	To investigate whether distressed military couples, compared to distressed civilian couples, are at greater risk for specific marital problems.	60 married couples were included in the study. 30 maritally distressed military couples seeking marital therapy at Fort Benning, Georgia, were recruited for the study. 30 civilian couples were recruited from two locations. 14 civilian couples were former clients of a marriage and therapy clinic at Auburn University, whereas the remaining 16 couples were provided by a consortium of marriage and family therapy researchers.	All couples completed a demographic questionnaire and responded independently to three measures of marital distress. Marital satisfaction was measured using the Locke-Wallace Marital Adjustment Scale, a 15-item questionnaire. The Marital Status Inventory, a 14-item inventory, measures active behaviors necessary to secure a divorce, where the more steps taken the more likely the couple will divorce. And, the Area of Change questionnaire assesses marital distress via the amount of change spouses want in their relationship.	Military wives were more likely than were civilian wives to be physically abused ($\chi^2 = 3.68, p = .06$), and they more often requested that their husbands drink less (binomial, $p < .02$), work late less ($\chi^2 = 4.27, p < .04$), and express more emotion ($\chi^2 = 5.50, p < .02$). Military husbands were less encouraging than were civilian husbands of their wives having nonsexual outside relationships ($\chi^2 = 4.70, p < .03$).
Cronin (1995)	To examine reports of parental spousal violence among American college students at the University of Maryland, Munich campus.	202 American students attending the University of Maryland at the Munich campus in the fall of 1990 who were dependents of military and civilian families stationed in Europe.	The sample completed a questionnaire in which they indicated on a 5-point scale how frequently they observed one or both parents expressing nine specific aggressive behaviors toward each other.	The data indicated a higher percentage of students from military families reporting parental spousal violence, $t(200) = 2.28, p < .05$, including slapping or pulling hair ($\chi^2 = 9.50, p < .01$) and throwing things at or toward the other parent ($\chi^2 = 5.70, p < .01$).
Heyman and Neidig (1999)	To compare military and civilian spousal aggression rates from representative samples.	33,762 married, active-duty Army women and men who were randomly sampled at 38 Army installations within the U.S. between 1990 and 1994 who responded to study survey compared to 3,044 married, employed, civilian women and men between the ages of 18 and 65 who responded to the 1985 National Family Violence Survey.	Both samples were standardized to match the age and race distributions of the 1990 U.S. Census for married women and men between the ages of 18 and 65 years with at least one spouse who was employed full-time. Conflict Tactics Scale (CTS) data were collected in both the Army and civilian surveys and used to calculate prevalence rates of abuse in each population, controlling for age and race. CTS is a self-report instrument that assesses the frequency of a variety of conflict tactics engaged in when resolving marital conflict with a partner.	Comparing Army and civilian standardized rates of moderate and severe husband-to-wife violence found significantly higher results in the Army for men's reports of severe aggression ($\chi^2 = 58.66, p < .001$) and for women's reports of experiencing moderate violence ($\chi^2 = 8.82, p < .01$) and severe violence ($\chi^2 = 18.86, p < .001$).

vilian families stationed in Europe who were employed by the U.S. Department of Defense (Cronin, 1995). Griffin and Morgan (1988) interviewed both military and civilian distressed couples seeking therapy and found that military wives were significantly more likely than civilian wives to be physically abused. Military wives also were at greater risk for particular marital problems, including husbands who drank and worked late too often and did not express enough emotion. Heyman and Neidig (1999) compared spousal aggression prevalence rates in U.S. Army and civilian representative samples. The standardized rates of moderate and severe husband-to-wife violence were significantly higher in the Army for men's reports of severe aggression and women's reports of experiencing moderate and severe violence. Finally, from questionnaires completed by dependents of civilian and military families, Cronin (1995) found a significantly higher percentage of students from military families reporting parental spousal violence, including slapping or pulling hair and throwing things at or toward the other parent.

DISCUSSION

This literature review found that there are few studies concerning the extent of violence in military families. Physical abuse and neglect compose the majority of reported and substantiated cases of child maltreatment in the military, followed by sexual abuse and emotional abuse. Physical abuse represents more than 90% of all substantiated cases of spouse abuse in military families, followed by emotional abuse, neglect, and sexual abuse. However, caution is urged in interpreting these estimates in light of the methodological limitations of these studies. First, recent statistics are not available for all branches of the military. Only one study that published data on the prevalence of child maltreatment in Navy and Marine Corps families was identified, and this study was published quite some time ago (Acord, 1977). Somewhat similarly, statistics from the Air Force central registry have not been published for child maltreatment and spouse abuse since 1995 (Mollerstrom, Patchner, & Milner, 1995). In addition, although the De-

partment of Defense (1981, 1987) set forth requirements and instructions in Directive 6400.1 and Instruction 6400.2 concerning the criteria for substantiating child maltreatment and spouse abuse, the reporting system and the source of referrals may differ somewhat for each branch of the military (Chamberlain, Stander, & Merrill, 2003). Because each branch is responsible for its own data collection and analyses, the amount of family violence information published in peer-reviewed journals varies, with no data reflecting an overall picture of family violence in the military. Therefore, it is difficult to compare statistics from each branch of the military. Finally, the statistics presented in recent published studies generally focus on substantiated cases of abuse and neglect entered into central registries and do not include cases that are never reported to the authorities and those that are unsubstantiated. Thus, these estimates based on substantiated child maltreatment and spouse abuse will undoubtedly be an underestimate of what is actually occurring in military communities.

Studies that examined the extent of child maltreatment in military versus nonmilitary populations differed in terms of their findings, with two studies suggesting more abuse and neglect in the military, two studies suggesting a lower overall rate of abuse and neglect in the military, and two studies suggesting more and less severe maltreatment in military compared to nonmilitary populations, depending on the type of maltreatment examined. However, the findings were consistent for studies examining spouse abuse. All three studies found that the military community has higher rates of physical spouse abuse (Cronin, 1995; Griffin & Morgan, 1988) or more severe husband-to-wife aggres-

Griffin and Morgan (1988) interviewed both military and civilian distressed couples seeking therapy and found that military wives were significantly more likely than civilian wives to be physically abused. Military wives also were at greater risk for particular marital problems, including husbands who drank and worked late too often and did not express enough emotion.

sion (Heyman & Neidig, 1999). Again, methodological differences should be considered when interpreting these results. The methods used to report, track, and substantiate abuse and neglect cases within military and civilian populations are not standardized (McCurdy & Daro, 1994). Depending on the state, the National Child Abuse and Neglect Data System receives either case-level or aggregate data, whereas the central registries record information on the individual level (McCarroll, Newby, Thayer, et al., 1999; Mollerstrom et al., 1995; U.S. Department of Health and Human Services, 2004). In addition, definitions of abuse and neglect differ between populations (McCarroll et al., 2004a), and referrals of maltreatment come from different sources (Mollerstrom et al., 1995; Wardinsky & Kirby, 1981; U.S. Department of Health and Human Services, 2004).

Understanding family violence in the military is an important concern because of the unique stresses faced by military families on a daily basis that could place them at greater risk for family dysfunction. Members of the armed forces are often required to relocate to another city, state, or country, often resulting in a disruption to family life (Segal, 1989). They also tend to work long hours and are subject to extended separations in the form of schooling, temporary assignments, or deployment, all of which may interfere with family obligations. In a study of Navy servicemen and their wives, Hertz and Charlton (1989) found that many wives share symptoms of their husbands' work-related stress in the form of lost sleep, digestive disorders, and irritability because they often assume more household responsibilities in their hus-

bands' absences. Separations also may place additional stress on the family by creating new roles and responsibilities for family members left behind, uncertainty about the safety of the soldier, disruption to the family routine, and the inability to plan for the future (Blount, Curry, & Lubin, 1992; Figley, 1993; Segal, 1989).

By identifying patterns of maltreatment in military families and making comparisons with family violence in civilian populations, the Department of Defense will be able to make informed future decisions with respect to the allocation of services to its military personnel. Overall, early detection and prevention of violence within military families will reduce the expenditures associated with abuse and neglect and improve the overall readiness of military soldiers.

Future research is needed that explores family violence in all branches of the military. Studies should also focus on the simultaneous occurrence of child maltreatment and spouse abuse in military families. The civilian and military communities are urged to work toward using common definitions and practices to facilitate comparison of rates among the populations. Although some have proposed that the availability of services along with other factors in the military should result in lower rates of family violence, this review finds mixed support for that idea in regard to child maltreatment but not for spouse abuse. Thus, it is important to further examine service availability and utilization to determine the impact on family violence. Most importantly, the military needs to continue to focus on understanding child maltreatment and spouse abuse within its community.

IMPLICATIONS FOR PRACTICE, POLICY, AND RESEARCH

- Researchers are urged to simultaneously examine child maltreatment and spouse abuse within families.
- More research concerning family violence in all branches of the military is needed.
- Military and civilian decision makers can facilitate comparisons of abuse and neglect between the populations by creating similar working definitions, central databases, and consistent methodologies.
- Researchers need to consider how reporting is affected by differences in the way military and civilian agencies detect and treat family violence.
- Irrespective of whether the violence occurs in civilian or military families, services need to be provided to victims of abuse in a timely and comprehensive fashion.

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SUGGESTED FUTURE READINGS

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