Child Maltreatment

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Child Maltreatment and Substance Abuse Among U.S. Army Soldiers
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Although substance abuse has consistently been linked to child maltreatment, no study to date has described the extent of substance abuse among child maltreatment offenders within the military. Analysis of U.S. Army data on all substantiated incidents of parental child maltreatment committed between 2000 and 2004 by active duty soldiers found that 13% of offenders were noted to have been abusing alcohol or illicit drugs at the time of their child maltreatment incident. The odds of substance abuse were increased for offenders who committed child neglect or emotional abuse, but were reduced for child physical abuse. The odds of offender substance abuse nearly tripled in child maltreatment incidents that also involved co-occurring spouse abuse. Findings include a lack of association between offender substance abuse and child maltreatment recurrence, possibly because of the increased likelihood of removal of offenders from the home when either substance abuse or spouse abuse were documented.

Keywords: child maltreatment; substance abuse; military; intimate partner violence

The abuse of alcohol and other drugs has been clearly linked to the perpetration of child maltreatment, including child neglect as well as physical, emotional, and sexual abuse (De Bellis et al., 2001; Famularo, Kinscherff, & Fenton, 1992; Haller & Miles, 2003; Jaudes, Ekwo, & Van Voorhis, 1995; Kelleher, Chaffin, Hollenberg, & Fischer, 1994; Kelly, 2002; Leonard, 2002; Magura & Laudet, 1996; Walsh, MacMillan, & Jamieson, 2003). Estimates of the magnitude of the relationship between substance abuse and child maltreatment depend on the population, data collection methods, and definitions used. Most studies based on populations within the child welfare system report that between one third and two thirds of substantiated child maltreatment cases involve offender substance abuse (Besinger, Garland, ...
Litrownik, & Landsverk, 1999; Curtis & McCullough, 1993; Lung & Daro, 1996; National Center on Addiction and Substance Abuse at Columbia University, 1999; Semidei, Radel, & Nolan, 2001). Estimates based on community samples have found rates of child maltreatment doubled (Walsh et al., 2003) or even tripled (Chaffin, Kelleher, & Hollenberg, 1996) among children of substance-abusing parents.

Substance abuse is more closely associated with child neglect than with physical abuse. In a national probability sample of children with substantiated reports of maltreatment, cases involving abuse of alcohol and other drugs were more likely than other cases to involve physical neglect (46% compared to 24%) and were less likely to involve physical abuse (13% versus 32%) or sexual abuse (4% versus 24%), with no differences noted in emotional abuse (U.S. Department of Health and Human Services National Center on Child Abuse and Neglect, 1993). Similarly, in a sample of children placed in out-of-home care in San Diego County, Besinger et al. (1999) found that children whose caregivers exhibited problematic use of alcohol or other drugs were more likely than others to be removed because of neglect, and less likely to be removed for physical or sexual abuse. In general, children from substance abusing families are more likely to be placed in foster care (U.S. Department of Health and Human Services, 1999).

Offender substance abuse has been found to be related to both the severity and the recurrence of child maltreatment. In a population-based Canadian study with more than 8,000 respondents, researchers found elevated odds of severe physical abuse and severe sexual abuse (odds ratio [OR] = 3.0 and OR = 2.7, respectively) when parental substance abuse was reported (Walsh et al., 2003). Furthermore, among 208 maltreating patients identified at an outpatient clinic, substance misuse was positively associated with severity of child maltreatment, regardless of the type of child maltreatment (Sprang, Clark, & Bass, 2005). Substance abuse is also associated with increased risk of recurrent child maltreatment (English, Marshall, Brummel, & Orme, 1999; McDonald, 1990; Terling, 1999), both as a direct effect and one that is mediated through the deleterious effect of substance abuse on family functioning (Wolock & Magura, 1996).

In addition to its association with child maltreatment, substance abuse has consistently been identified as a correlate of intimate partner violence (Coker, Smith, McKeown, & King, 2000; Dube et al., 2001; Leonard, 2002; Strauss, Gelles, & Steinmetz, 1980), which is in turn strongly associated with child maltreatment in civilian populations (Ross, 1996; Slep & O’Leary, 2001; Strauss et al., 1980; Strauss et al., 1990) and in the military (Martin et al., in press; Rumm, Cummings, Krauss, Bell, & Rivara, 2000).

**MILITARY CONTEXT**

Both substance abuse (Bray et al., 2003; Bray & Marsden, 2000) and child maltreatment (McCarroll, Ursano, Fan, & Newby, 2004a; Raiha & Soma, 1997; Rentz et al., 2006) occur within military populations, although their patterns are markedly different from civilian populations. Bray et al. (2003) compared rates of substance abuse among military personnel to those in the civilian population, standardizing national data to the characteristics of the military in terms of gender, age, race/ethnicity, marital status and education. They found that military personnel are more likely to report heavy alcohol use during the previous 30 days than civilians (17% compared to 11%, \( p < .05 \)) but much less likely to have used illicit drugs (3% compared to 12%, \( p < .05 \); Bray et al., 2003). The relatively low rate of illicit drug use is likely because of military policy and ongoing urine screening programs (Department of the Army, 2001).

Comparisons of child maltreatment in military and civilian populations have yielded varying results, although the strongest evidence suggests lower rates of child maltreatment in military populations (Rentz et al., 2006). Researchers have found disproportionally high rates of child maltreatment homicide in counties with large military populations (North Carolina Child Advocacy Institute, 2004), and of shaken baby syndrome among pediatric intensive care unit admissions from military families (Gessner & Runyan, 1995). However, analyses that compare child maltreatment cases substantiated by Army Family Advocacy Programs to those reported by states to the U.S. Department of Health and Human Services have found rates of maltreatment among Army populations that were approximately half those of civilian populations, nationally (McCarroll, Ursano, Fan, & Newby, 2004b), and in the state of Hawaii (Raiha & Soma, 1997). In addition, a comparison of child maltreatment cases in the National Child Abuse and Neglect Data System (NCANDS) for Texas, a state with a large military population, found significantly lower rates of maltreatment in military families than in nonmilitary families, although this pattern was reversed following initiation of large-scale combat deployments in 2002 (Rentz et al., 2007).

Unlike the analyses of substance abuse described earlier, these comparisons of child maltreatment rates
do not adjust for important differences between military and civilian populations, and are likely to reflect demographic and contextual characteristics of the military. Protective aspects of military life include lower rates of illicit drug use (Bray et al., 2003), increased family stability created by the employment of at least one family member, and universal access to health and social services (Jensen, Xenakis, & Wolf, 1991; McCarroll et al., 2004b). However, military life creates unique stressors for families, including long hours and frequent relocations, as well as combat-related deployments, which have been associated with higher rates of child maltreatment (Gibbs, Martin, Kupper, & Johnson, 2007; Rentz et al., 2007).

The military’s response to both child maltreatment and spouse abuse centers on Family Advocacy Programs that are charged with prevention, identification, evaluation, and treatment of family violence (Department of the Army, 2006). ¹ Army commanders and personnel in medical, social service, education, and law enforcement are required, and other personnel encouraged, to report known or suspected cases of child maltreatment and spouse abuse. All cases of child maltreatment involving active duty soldiers are reviewed by multidisciplinary committees whose members include personnel from social work, medical care, chaplain service, law enforcement, and criminal justice, as well as each soldier’s unit commander. On installations within the United States, Army service providers typically coordinate with civilian child protective service agencies to investigate cases and deliver services to families. Regardless of civilian agency involvement, the Family Advocacy Program makes its own substantiation determination based on criteria defined by military regulation. These criteria may differ from those of the local civilian child protective services agency; for example, Family Advocacy Programs are required to substantiate child maltreatment if there exists an emerging pattern of maltreatment or a trend toward increased risk (Department of the Army, 2006). By contrast, federal law defines child maltreatment and neglect as acts or failures to act that result in serious harm or imminent risk of serious harm, although states may enact lower thresholds for substantiation in their civil, criminal, or juvenile law (Goldman, Salus, Woldott, & Kennedy, 2003).

To our knowledge, no study has described the extent of substance abuse among child maltreatment offenders within the military. Children in military families are of interest to the civilian child protective service agencies that respond to the needs of the nearly 1,000,000 minor children in active duty military families (Caliber, 2004). For local child protective service agencies in communities near military installations, these families may comprise the majority of the caseload. Information on the co-occurrence of child maltreatment and substance abuse is also needed to help military service providers build an empirical basis for prevention and treatment services. In addition, a better understanding of the relationship between child maltreatment, substance abuse, and intimate partner violence in any population will add to the slender body of knowledge on the co-occurrence of these issues.

Therefore, this study provides the first description of substance abuse among child maltreatment offenders in the military, reporting the extent of offender substance abuse in substantiated child maltreatment incidents committed by U.S. Army soldiers. Analyses compare the characteristics, patterns of maltreatment, prevalence of co-occurring spouse abuse, and service responses for offenders whose child maltreatment incidents involved substance abuse and those without substance abuse involvement.

METHOD

Data Sources

Information for this study comes primarily from the Army Central Registry, the Family Advocacy Program’s confidential electronic information system. Army Central Registry records include demographic and military characteristics of offenders, victim characteristics, and descriptions of the maltreatment incident. Data on whether child maltreatment offenders were referred to substance abuse services came from the Drug and Alcohol Management Information System, the data system of the Army Substance Abuse Program. This database includes information on all evaluations and service referrals for alcohol- and drug-related problems. Finally, the Defense Manpower Data Center provided data on child maltreatment offenders’ dates of entry to and exit from military service, which were used to calculate length of stay in the Army for offenders with and without substance abuse involvement.

Study Population and Variables

This report examines all Army Central Registry records of substantiated child maltreatment incidents occurring during the 5-year period between January 1, 2000, and December 31, 2004, in which the offender was an active duty soldier and was a parent (biological, adoptive, or stepparent) of the child experiencing maltreatment. Soldiers were not necessarily in the Army during the entire 5-year period. To accurately capture rates of recurrent child maltreatment,
the analysis was limited to soldiers for whom the first child maltreatment recorded in the Army Central Registry occurred during the study period.

Data on child maltreatment offenders includes their sex, age, race and ethnicity, and military pay grade; mental health diagnoses are not recorded in the Army Central Registry. Pay grade was classified as lower (representing military ranks up to Corporal) or higher (representing military rank of Sergeant or higher). The measure of offender substance abuse is whether the child maltreatment incident involved alcohol or illicit drug use by the offender, based on reports from the first responder to the scene (typically military police) or the assessment of the clinical worker completing the incident report. To ensure consistency in reporting recurrent child maltreatment and subsequent referrals to substance abuse services, offenders with multiple child maltreatment incidents were categorized in terms of whether substance abuse was noted at the time of the initial child maltreatment incident. Data on offender substance abuse at the time of the first child maltreatment incident was missing for 296 (7%) of the 4,255 soldiers who were child maltreatment offenders; analyses are based on the remaining 3,959 records.

Child maltreatment incidents are categorized as physical, emotional, or sexual abuse, or neglect, and as mild, moderate, or severe. Criteria for severity are defined for each form of maltreatment based on both risk and harm to the child; that is, mild neglect represents an isolated incident with minimal risk to the child, whereas severe neglect represents serious harm or potential harm (U.S. Army Family Advocacy Program, 1997). Sexual abuse is always classified as severe (Department of the Army, 2006). For offenders who committed multiple types of maltreatment against a single child or maltreatment against more than one child on a single day, classification of abuse severity was on the most serious incident recorded. Analyses also examined whether the offender had a spouse abuse incident on the day of the child maltreatment incident.

Data Analysis

Descriptive statistics, including percentages, means, and standard deviations, were used to examine various characteristics of offenders and child maltreatment incidents. Chi-square tests, ORs, and 95% confidence intervals (CIs) were used to compare offender and incident characteristics and actions taken subsequent to the incident for offenders whose child maltreatment offenses involved substance abuse and those without substance abuse involvement.

Kaplan-Meier survival functions were used to test whether substance abuse at the time of a child maltreatment incident increased the likelihood of the offender’s subsequent exit from the Army, thereby decreasing the likelihood of multiple incidents of child maltreatment. To minimize the number of cases with censored data because of the end of our observation period, these analyses were limited to the 1,663 soldiers whose first offense took place during the year 2000 or 2001.

RESULTS

During the 5-year period between January 1, 2000, and December 31, 2004, 522 (13%) of 3,959 child maltreatment offenders were noted to have been abusing alcohol or illicit drugs at the time of their first child maltreatment incident. Offender substance abuse largely involved alcohol (89% of offenders) rather than illicit drugs (6% of offenders). For the remaining 5% of offenders, both alcohol and illicit drug abuse were noted.

Within the population of child maltreatment offenders, several characteristics differentiate those whose first child maltreatment incident involved substance abuse, as seen in Table 1. These offenders were far more likely than others to have been referred to substance abuse services prior to their first child maltreatment incident (OR = 5.30, 95% CI = 3.98–7.06). Odds of substance abuse at the time of the child maltreatment incident were higher for offenders who were male rather than female (OR = 1.99, 95% CI = 1.50–2.66), married rather than single (OR = 1.83, 95% CI = 1.25–2.67), and White non-Hispanic rather than Black or Hispanic (OR = 1.30, 95% CI = 1.08–1.56). Offender substance abuse at the time of the child maltreatment incident did not vary by pay grade or soldier age.

The odds of offender substance abuse at the time of the child maltreatment incident varied substantially according to the characteristics of the incident, as seen in Table 2. Child maltreatment offenders who also committed spouse abuse on the same day as the child maltreatment incident were more likely to have abused alcohol or illicit drugs (OR = 2.93, 95% CI = 2.40–3.57) than those who committed only child maltreatment. Offenders who committed child neglect, particularly severe neglect, had elevated odds of substance abuse (OR = 1.97, 95% CI = 1.36–2.84 for severe neglect and OR = 1.28, 95% CI = 1.06–1.55 for mild or moderate neglect). Similarly, those who committed emotional abuse had elevated odds of substance abuse (OR = 2.17, 95% CI = 1.29–3.65).
for severe emotional abuse and OR = 1.98, 95% CI = 1.60–2.46 for mild or moderate emotional abuse). By contrast, the odds of offender substance abuse were reduced for incidents of physical abuse (OR = 0.5, 95% CI = 0.33–0.85 for severe physical abuse, and OR = 0.39 95% CI = 0.3–0.50 for mild or moderate physical abuse). Offender substance abuse was not associated with sexual abuse.

Following the initial child maltreatment incident, most (91%) offenders had no further child maltreatment incidents, and recurrent child maltreatment was not significantly associated with substance abuse, as shown in Table 2 (OR = 0.81, 95% CI = 0.59–1.13).

However, post hoc analyses found that offenders whose first child maltreatment incident involved substance abuse exited the Army more quickly following the incident. Kaplan-Meier analysis revealed that child maltreatment offenders with substance abuse at the time of the maltreatment incident had a median length of stay in the Army of 3.5 years following their first child maltreatment incident, compared to 4.7 years for other offenders (Wilcoxon test of equality of strata, \( \chi^2_{(df)} = 4.10, p < .05 \)).

Responses to child maltreatment incidents varied substantially for offenders with and without substance abuse at the time of the incident, as shown in Table 3. Offenders who were referred to substance abuse services following their initial child maltreatment incident were far more likely to be those with substance abuse at the time of the child maltreatment incident (OR = 14.22, 95% CI = 11.45–17.67). In addition, substance abuse was far less common among offenders whose incidents resulted in children being removed from the home to substitute care following the child maltreatment incident (OR = 0.56, 95% CI = 0.39–0.80), but more than twice as likely in incidents in which offenders were themselves removed from the home (OR = 2.15, 95% CI = 1.75–2.63).

Removals of maltreated children and offenders from the home were associated with both offender substance abuse and co-occurring spouse abuse. Figure 1 shows responses to child maltreatment incidents for each combination of offender substance abuse and co-occurring spouse abuse. Offenders whose child maltreatment incidents involved neither substance abuse nor spouse abuse were most likely to have children removed from the home (13.6%) and least likely to themselves be removed from the home (15.1%). By contrast, offenders whose child maltreatment incidents involved both substance abuse and co-occurring spouse abuse were the least likely to have children removed from the home (3.1%) and most likely to themselves be removed from the home (49.7%, \( p < .001 \)).

**DISCUSSION**

This study found that 13% of Army soldiers who are child maltreatment offenders had substance abuse noted at the time of their first maltreatment

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**TABLE 1: Characteristics of Child Maltreatment Offenders With and Without Substance Abuse at Time of First Incident (N = 3,959)**

<table>
<thead>
<tr>
<th>Substance Use at Time of First Incident (n = 522)</th>
<th>No Substance Use at Time of First Incident (n = 3,437)</th>
<th>(95% Confidence Interval)</th>
<th>Chi-Square</th>
<th>Lower</th>
<th>Upper</th>
<th>p Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prior substance use referral</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>90 17.2</td>
<td>130 3.8</td>
<td>5.30</td>
<td>3.98</td>
<td>7.06</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>No</td>
<td>432 82.8</td>
<td>3307 96.2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>464 88.9</td>
<td>2,760 80.3</td>
<td>1.99</td>
<td>1.50</td>
<td>2.66</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Female</td>
<td>57 10.9</td>
<td>676 19.7</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Marital status</td>
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<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Married</td>
<td>486 93.1</td>
<td>3,035 88.3</td>
<td>1.83</td>
<td>1.25</td>
<td>2.67</td>
<td>.002</td>
</tr>
<tr>
<td>Single, divorced, widowed</td>
<td>31 5.9</td>
<td>354 10.3</td>
<td></td>
<td></td>
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<tr>
<td>Race/ethnicity</td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>White non-Hispanic</td>
<td>274 52.5</td>
<td>1,581 46.0</td>
<td>1.30</td>
<td>1.08</td>
<td>1.56</td>
<td>.006</td>
</tr>
<tr>
<td>Black or Hispanic</td>
<td>248 47.5</td>
<td>1,856 54.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pay grade</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lower</td>
<td>261 50.0</td>
<td>1,781 51.8</td>
<td>0.93</td>
<td>0.77</td>
<td>1.12</td>
<td>.4386</td>
</tr>
<tr>
<td>Higher</td>
<td>261 50.0</td>
<td>1,656 48.2</td>
<td></td>
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</tr>
<tr>
<td>Age</td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td>25 or younger</td>
<td>178 34.1</td>
<td>1,175 34.2</td>
<td>1.00</td>
<td>0.82</td>
<td>1.21</td>
<td>.964</td>
</tr>
<tr>
<td>Over age 25</td>
<td>343 65.7</td>
<td>2,254 65.6</td>
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</tr>
</tbody>
</table>

*NOTE: Data on whether substance abuse was indicated at time of incident was missing for 296 (6.96%) of the 4,255 child abuse offenders.*
**TABLE 2:** Characteristics of Child Maltreatment Incidents, for Offenders With and Without Substance Abuse at Time of First Incident ($N = 3,959$)

<table>
<thead>
<tr>
<th>Substance Use at Time of First Incident ($n = 522$)</th>
<th>No Substance Use at Time of First Incident ($n = 3,437$)</th>
<th>(95% Confidence Interval)</th>
<th>Chi-Square</th>
<th>Lower</th>
<th>Upper</th>
<th>p Value</th>
</tr>
</thead>
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<tr>
<td>$n$</td>
<td>$%$</td>
<td>$n$</td>
<td>$%$</td>
<td>Odds Ratio</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spouse abuse incident on same day</td>
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<td></td>
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<td></td>
</tr>
<tr>
<td>Yes</td>
<td>193</td>
<td>37.0</td>
<td>574</td>
<td>16.7</td>
<td>2.93</td>
<td>2.40</td>
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<tr>
<td>No</td>
<td>329</td>
<td>63.0</td>
<td>2,863</td>
<td>83.3</td>
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<td>Neglect</td>
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<tr>
<td>Severe</td>
<td>41</td>
<td>7.9</td>
<td>160</td>
<td>4.7</td>
<td>1.97</td>
<td>1.36</td>
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<tr>
<td>Mild/moderate</td>
<td>245</td>
<td>46.9</td>
<td>1,467</td>
<td>42.7</td>
<td>1.28</td>
<td>1.06</td>
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<tr>
<td>No</td>
<td>236</td>
<td>45.2</td>
<td>1,810</td>
<td>52.7</td>
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<tr>
<td>Emotional abuse</td>
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<td></td>
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<td></td>
</tr>
<tr>
<td>Severe</td>
<td>19</td>
<td>3.6</td>
<td>68</td>
<td>2.0</td>
<td>2.17</td>
<td>1.29</td>
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<tr>
<td>Mild/moderate</td>
<td>140</td>
<td>26.8</td>
<td>549</td>
<td>16.0</td>
<td>1.98</td>
<td>1.60</td>
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<tr>
<td>No</td>
<td>363</td>
<td>69.5</td>
<td>2,820</td>
<td>82.0</td>
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</tr>
<tr>
<td>Physical abuse</td>
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<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Severe</td>
<td>20</td>
<td>3.8</td>
<td>195</td>
<td>5.7</td>
<td>0.53</td>
<td>0.33</td>
</tr>
<tr>
<td>Mild/moderate</td>
<td>78</td>
<td>14.9</td>
<td>1,043</td>
<td>30.3</td>
<td>0.39</td>
<td>0.30</td>
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<td>No</td>
<td>424</td>
<td>81.2</td>
<td>2,199</td>
<td>64.0</td>
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<td>Sexual abuse</td>
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<tr>
<td>Severe</td>
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<td>206</td>
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<tr>
<td>No</td>
<td>497</td>
<td>95.2</td>
<td>3,231</td>
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<tr>
<td>Recurrence of child maltreatment after first incident</td>
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<tr>
<td>Yes</td>
<td>45</td>
<td>8.6</td>
<td>357</td>
<td>10.4</td>
<td>0.81</td>
<td>0.59</td>
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<tr>
<td>No</td>
<td>477</td>
<td>91.4</td>
<td>3,080</td>
<td>89.6</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**NOTE:** Data on whether substance abuse was indicated at time of incident were missing for 296 (6.96%) of the 4,255 child abuse offenders. Because multiple forms of abuse can be substantiated, types of abuse can add to greater than 100%.

**FIGURE 1:** Victim Protective Actions by Characteristics of Maltreatment Incident ($N = 3,959$ offenders)
incident, typically involving alcohol rather than illicit drugs. Substance abuse at the time of the incident was more than five times as likely for offenders with prior referrals to substance abuse services. Moreover, the odds of offender substance abuse more than doubled for offenders with concurrent spouse abuse incidents. Offender substance abuse was more common among males and those who were White non-Hispanic; the latter pattern possibly reflecting higher proportions of White non-Hispanic soldiers within lower pay grades (Caliber, 2004). Offenders whose child maltreatment incidents involved substance abuse or co-occurring spouse abuse were less likely than others to have children removed to substitute care and more likely to themselves be removed from their home following the child maltreatment incident.

Several key themes emerge from these analyses. First, the level of substance abuse found here is dramatically lower than that reported in civilian child welfare populations, where substance abuse is considered to be a factor in between one third to two thirds of cases of child maltreatment (U.S. Department of Health and Human Services, 1999). Measures of substance abuse in these studies include clinical diagnoses, caseworker assessments, or reports of parental substance abuse as a factor in outcomes (Semidei et al., 2001). It is impossible to compare these measures to the one used here or the substance abuse at the time of the child maltreatment incident, or to assess the extent to which substance abuse at the time of the incident represents a more generalized substance abuse problem. However, the high degree of association between offender substance abuse at the time of the child maltreatment incident and referrals to substance abuse services, both before and after the child maltreatment incident, suggest that this is a reasonable indicator of underlying substance abuse problems.

Several factors support the plausibility of relatively low rates of parental substance abuse in the military compared to civilian populations, particularly their different patterns of substance abuse. Illicit drug use is generally believed to represent a substantial portion of offender substance abuse in the civilian child welfare population, particularly since the introduction of crack cocaine use in the mid-1980s (Curtis & McCullough, 1993; Magura & Laudet, 1996). By contrast, the Army environment has extremely low rates of illicit drug use when compared to civilians (Bray et al., 2003; Bray, Marsden, & Peterson, 1991). Other factors contributing to relatively low prevalence of substance abuse among child maltreatment offenders in the military could include the lack of extreme poverty and severe substance abuse among military families, and lower thresholds used for substantiation of child maltreatment by Family Advocacy Programs.

A second finding of interest lies in the characteristics of child maltreatment when substance abuse is present. As has been observed in civilian child welfare populations (Besinger et al., 1999; U.S. Department of Health and Human Services National Center on Child Abuse and Neglect, 1993), offenders with substance abuse involvement were more likely to commit child neglect and were less likely to commit physical abuse than other child maltreatment offenders. Our analyses also found strongly increased odds of offender substance abuse with severe child neglect, but no associations with severity for other forms

| Subservice Responses Following Child Maltreatment Incidents, for Offenders With and Without Substance Abuse at Time of First Incident (N= 3,959) |
|--------------------------------------------------|--------------------------------------------------|---------------------------------|----------------|----------------|
| Substance Use at Time of First Incident (n = 522) | No Substance Use at Time of First Incident (n = 3,437) | (95% Confidence Interval) | Odds Ratio | Lower | Upper | p Value |
| Substance use referral | | | | | | |
| Yes | 266 | 51.0 | 234 | 6.8 | 14.22 | 11.45 | 17.67 | <.001 |
| No | 256 | 49.0 | 3,203 | 93.2 | | | | |
| Child removed from home | | | | | | |
| Yes | 36 | 6.9 | 402 | 11.7 | 0.56 | 0.39 | 0.80 | <.001 |
| No | 486 | 93.1 | 3,035 | 88.3 | | | | |
| Offender removed from home | | | | | | |
| Yes | 171 | 32.8 | 636 | 18.5 | 2.15 | 1.75 | 2.63 | <.001 |
| No | 351 | 67.0 | 2,801 | 81.5 | | | | |

NOTE: Data on whether substance abuse was indicated at time of incident was missing for 296 (6.96%) of the 4,255 child abuse offenders.
of maltreatment. Research in civilian populations has produced mixed findings in relation to severity for specific types of maltreatment, including associations of offender substance abuse associated with severe physical abuse and severe sexual abuse (Walsh et al., 2003), or with severity of abuse regardless of type (Sprang et al., 2005). These distinctions may reflect differences between military and civilian environments with respect to patterns of substance abuse, measures of substance abuse, or criteria for substantiation of child maltreatment.

Contrary to recent research (English et al., 1999; Terling, 1999; Wolock & Magura, 1996), we found no association between offender substance abuse and recurrence of child maltreatment. This may be attributable in part to the higher likelihood of offender removal from the home for offenders with substance abuse involvement, although we have no data on the length of their removal. It may also result from the increased likelihood of separation from the Army for offenders with severe substance abuse problems. Although soldiers diagnosed as drug dependent are generally not retained in the Army, soldiers found to be alcohol dependent may continue military service following successful completion of treatment and at the discretion of their commander (Department of the Army, 2001). Offenders who have been separated from the Army because of substance abuse problems may commit subsequent child maltreatment offenses, but these will not be captured by Army data.

A third key finding is the strong association between substance-abuse-involved child maltreatment and spouse abuse. The odds of substance abuse involvement nearly tripled for offenders with substantiated spouse abuse incidents on the same day as the child maltreatment incident. The strength of this association may actually be understated if violence between unmarried partners is not reported as spouse abuse, although the fact that 87% of child maltreatment offenders in this population were married suggests that this is not likely to be a major influence. Intimate partner violence has been strongly associated with alcohol use in both military (Bell, Hanford, McCarroll, & Senier, 2004) and civilian (Coker et al., 2000) populations. This association between offender substance abuse and spouse abuse also provides context for the increased likelihood of child emotional abuse among offenders with substance abuse at the time of the child maltreatment incident, because the military substantiates emotional abuse if children show evidence of significant distress as a result of exposure to parental abuse (R. Robichaux, personal communication, January 17, 2006). In other analyses of Army Central Registry data, rates of child emotional abuse were higher among child maltreatment offenders who are also spouse abuse offenders, compared to child maltreatment offenders who do not commit spouse abuse (Martin et al., 2007).

Some limitations to these analyses should be noted. As discussed, differences in both population characteristics and clinical definitions make it inappropriate to attempt direct comparisons between civilian and military child maltreatment offenders. Given the strong possibility of military career repercussions when commanders are aware of either child maltreatment or substance abuse, it is possible that either problem may be underreported or inconsistently reported. Conversely, the close interweaving of work and personal lives for soldiers may result in higher rates of detection than would otherwise occur. Finally, it is possible that the patterns reported here are biased by the absence of data on substance abuse at the time of the first child maltreatment incident for 7% of offenders.

Despite these limitations, this research is unique in examining substance abuse among child maltreatment offenders in conjunction with data on spousal abuse. The analyses reported here suggest that substance abuse assessments should be particularly attentive to soldiers’ family situations and include referrals to family support services where indicated. Toward this end, the assessment tool used by the Army Substance Abuse Program asks soldiers about family problems and records prior child maltreatment offenses. Similarly, the Family Advocacy Program’s assessment asks an extensive series of questions on drug and alcohol history and the impact of alcohol on current family functioning. Our findings also indicate that assessment of child maltreatment incidents should particularly consider the possibility of co-occurring substance abuse among offenders who are male, who have prior substance abuse referrals, or those whose maltreatment incident involved child neglect or concurrent spouse abuse.

The relatively integrated service delivery systems of the military facilitate its ability to identify, assess and treat co-occurring family violence and substance abuse problems. In this context, it is worth noting that the majority of child maltreatment offenders with substance abuse at the time of the child maltreatment incident were referred to substance abuse services following the child maltreatment incident. Unique to the military is the fact that incidents involving co-occurring substance abuse or spouse abuse frequently resulted in offenders being removed from their homes, allowing maltreated children to
The Army is currently working to improve complementary services for individuals with both substance abuse and family violence problems, in the expectation that assessment and coordinated services can both reduce the incidence and mitigate the impact of child maltreatment. Civilian child protective service agencies serving children in military families can in turn access these resources to improve outcomes for children. The experience of service providers within the military may provide insights for staff in child protective service agencies who must identify and respond to offenders with substance abuse involvement.

NOTE
1. At the time the data analyzed here were compiled, the Family Advocacy Program defined intimate partner violence in terms of abuse between married partners.

REFERENCES


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