



Prevalence and correlates of victimization and weapon carrying among military- and nonmilitary-connected youth in Southern California

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ABSTRACT

Objectives. The present analysis sought to explore the normative rates and correlates of school victimization and weapon carrying among military-connected and nonmilitary-connected youth in public schools in Southern California.

Methods. Data are from a sub-sample of the 2011 California Healthy Kids Survey (N = 14,512). Items to assess victimization and weapon carrying were separated into three categories: physical acts (e.g., being pushed or shoved), nonphysical acts (e.g., having rumors spread about them) and weapon carrying.

Results. The bivariate results indicate that youth with a military-connected parent had higher rates of physical victimization (56.8%), nonphysical victimization (68.1%), and weapon carrying (14.4%) compared to those with siblings serving (55.2%, 65.2%, and 11.4%, respectively) and nonmilitary-connected (50.3%, 61.6%, and 8.9%, respectively) youth. Having a parent in the military increased the odds of weapon carrying by 29% (Odds Ratio = 1.29, 95% confidence interval = 1.02–1.65). Changing schools and a larger number of family member deployments in the past 10 years were associated with significant increases in the likelihood of victimization and weapon carrying.

Conclusions. The results of this analysis warrant a focus on school supports for youth experiencing parental military service, multiple relocations and deployments of a family member.

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Nationally, there is a growing concern surrounding adolescent victimization and weapon carrying. Several potential risk factors for peer victimization and weapon carrying have been identified in the literature. Youth who experience school violence and victimization tend to be unpopular, “different” from their peers, and have few, if any, friends (Farrington, 1993). The social development model and social control theory postulate that the likelihood of delinquency, such as weapon carrying, is associated with persons who have weak bonds to conventional social institutions (Catalano and Hawkins, 1996; Gasper et al., 2010). Relocation to a new school generally incorporates a period of loneliness and lack of popularity as a student develops new peer relationships and social supports (Gasper et al., 2010). Students who change schools may be at risk for being victimized, victimizing others, substance use, and other antisocial behaviors (e.g., theft) due to the stress and challenges associated with changing schools (Gasper et al., 2010). Studies show that on average, students from military families change schools up to nine times (Esqueda et al., 2012) and that they find these transitions stressful (Mmari et al., 2010). The combination of stress and potential for weak social ties to new schools and communities may place military-connected students at increased risk for victimization.

In addition to family relocations, a large number of military students have also experienced the deployment of their parents or siblings, often to warzones, over the past decade (Chawla and Solinas-Saunders, 2011; Davis et al., 2012). From October 2001 to October 2010, it is estimated that 2.1 million service members have been deployed, 44% of whom are parents (Department of Defense, 2010). Nearly half (48%) of these parents have been deployed at least two times to Iraq or Afghanistan (Department of Defense, 2010). During deployments, the remaining members of military families often have added household responsibilities, including providing both emotional and instrumental support to parents and other family members (Faber et al., 2008; Huebner and Mancini, 2005; Huebner et al., 2007; Rodriguez and Margolin, 2011). Some research has suggested that these war-related events may cause strain on school-age youth in military families that affects their behavior and perceptions of experiences in school (DePedro et al., 2011; Mmari et al., 2010). Relocations to new schools and deployments can occur in conjunction or separately. These experiences represent potentially chronic stressors salient to military personnel and their families, particularly school-age youth.

The long-term detrimental effects of deployment have been attributed to the fact that many of those deployed witness and/or experience traumatic events that lead to mental health problems (Bowling and Sherman, 2008; Hoge et al., 2004; Seal et al., 2007). Additionally, a significant proportion of returning veterans may have physical injuries which require a long-term recovery period. Returning veterans must deal with the lingering effects of the traumas of war as well as simultaneously attempt to re-integrate into their careers, families, and

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communities (Bowling and Sherman, 2008). Additionally, service persons miss important developmental milestones of their school-age family members during deployment. Upon their return, they must learn to cope with changes in personality and physical maturity. Within the family unit responsibilities must be re-negotiated and the presence of the military service person may be disruptive to the established family routines (Bowling and Sherman, 2008). Finally, the threat of multiple deployments may hinder reintegration by the service member and their family (Bowling and Sherman, 2008). Thus, there is a possibility that multiple deployments can have a cumulative effect in the time required for re-integration back into the family, and consequently, on family members' long-term functioning and adjustment, both within and outside the family. Such intra-family stressors have an impact on all family members, frequently leading to them experiencing secondary traumatization.

Given the array of familial stressors and multiple transitions reported in the research literature, it is possible that military students are a group vulnerable to peer victimization experiences in public schools (Chandra et al., 2010b; Mmari et al., 2010). To date, there is only one unpublished study utilizing normative data to explore school violence and weapon carrying among military-connected youth (Reed et al., 2011a). However, this study does not include assessment of children who are impacted by having a sibling or other close family member serve in the military (Reed et al., 2011a). While parents remain influential in the lives of adolescents, this developmental stage is marked by a stronger affinity with peers. As such, during adolescence, because they are more like peers, siblings likely play an important, influential, and independent role within family systems (Howe and Ross, 1990). To our knowledge, only one identified study has explored the sibling relationships when one sibling is a military serviceperson, the authors note that having a sibling in the military is a significant life event interspersed with upheaval, role shifts, heightened sense of uncertainty and potential loss, and feelings of isolation (Rodriguez and Margolin, 2011). In addition, recent studies have found differential associations between parental and sibling military service and mental health and substance use (Cederbaum et al., in press; Gilreath et al., 2013). These studies highlight the importance of examining the unique experience of sibling military service.

Approximately 1.2 million military students are currently attending public schools within the U.S. (DePedro et al., 2011). To date, very little research has been conducted on the experiences of military students in public schools (DePedro et al., 2011). Prior research has shown associations between being victimized with truancy, substance use, depressed mood, perceptions of fear and safety, and a host of other health and social outcomes (Astor et al., 2002; Benbenishty and Astor, 2005; Cook et al., 2010; Espelage et al., 2012; Hawker and Boulton, 2000; Jimerson and Furlong, 2006; Klomek et al., 2007; van der Wal et al., 2003). Gaining empirical evidence regarding the victimization rates among this population and correlates with their background military experiences can be utilized to target preventive strategies toward newly relocated students in military-connected public schools. The goal of this study is to explore the prevalence rates and correlates of school victimization and weapon carrying among military-connected and nonmilitary-connected youth in secondary public schools in California. Given the stressors discussed above we hypothesize that military-connected youth may report higher rates of peer victimization and higher prevalence of weapon carrying.

Methods

The data used in this study are a sub-sample from the ongoing large-scale California Healthy Kids Survey (CHKS) conducted by WestEd. The CHKS is a modular survey instrument developed by WestEd in collaboration with the California Department of Education (CDE), which has been in use since 2001. Measures in the CHKS are very similar to those utilized in the Centers for Disease

Control's Youth Risk Behavior Surveillance System (YRBSS) for adolescent risk behaviors (Centers for Disease Control and Prevention, 2012). The CDE requires that participating districts (~85% of all 10,000 schools statewide and 99% of all 1000 districts) survey a representative district-wide, grade-level sample of students in the 5th, 7th, 9th, and 11th grades (Austin and Duerr, 2011). The CHKS includes a core module as well as a variety of supplemental modules that can be administered at the discretion of the school district. The present analysis focuses on all secondary school students in the 7th, 9th, and 11th grades in six military-connected districts (average daily attendance of more than 400 military students or 10%) in Southern California (N = 14,512). These districts opted to utilize the military module as part of their participation in a consortium created to improve school climate in military-connected schools. Four of the six districts were suburban, one rural, and one urban. District-level rates of the proportion of students receiving free/reduced-price lunch ranged from 37.5% to 66% with an average of 52.3%.

Appropriate institutional, district and state-level permissions and reviews were completed and parent/guardian consent was obtained for all participants. Data collection involved the student participants completing a paper-and-pencil survey during one class session. Student participation was voluntary, anonymous and confidential. The consent rate was 96.7% and the final completion rate of students present in class was 86.5%.

Dependent variables

School victimization was assessed by student self-reports about experiences and perceptions they had on school grounds. Physical violence was assessed by whether they had been shoved or pushed, were afraid of being attacked, had experienced having their property stolen or damaged, and/or had been threatened with a weapon or seen someone carrying a weapon at school in the past 12 months. Non-physical victimization included questions about whether the respondents experienced having rumors spread about them, had sexual jokes or gestures made toward them, had been made fun of because of their looks, or had rumors spread about them on the internet in the past 12 months. Weapon carrying was assessed by whether a respondent reported bringing a gun or a knife to school in the past 12 months. Each of these domains (physical, nonphysical, and weapon carrying) is presented as a yes or no response in the current analysis, indicating the experience of any one of the questions in a given domain.

Independent variables

The independent variables included grade (7th, 9th, or 11th), gender, race/ethnicity, number of deployments of a family member overseas in the past 10 years (none vs. one and two or more), number of times the student changed schools due to family relocation in the past five years (zero to three vs. four or more), and whether the student had a family member currently serving in the military (no one, parent, or sibling). Race/ethnic categories consisted of Asian American/Pacific Islander, Black, White, multiple races, and Hispanic ethnicity.

Data analysis

The Statistical Analysis System (SAS) version 9.2 was used in the analysis. Frequency distributions and cross-classification tables (χ^2 analysis) were performed to compare socio-demographic characteristics and key variables related to military connection and number of deployments. Three multiple logistic regressions (MLRs) were employed to predict the probability of yes vs. no for each of the domains described above. The analyses controlled for gender, grade, race/ethnicity, military connection, family member deployments, and school transitions concurrently. The effects of students being clustered in schools were accounted for by using PROC SURVEYFREQ for chi-square estimates and PROC SURVEYLOGISTIC in SAS 9.2 which uses a Taylor expansion approximation for variance estimation.

Results

Descriptive statistics

Table 1 presents the overall sample characteristics and Table 2 presents the side-by-side data on military- and nonmilitary-connected students and on the number of family member deployments.

Table 1
Overall characteristics of respondents in the 2011 California Healthy Kids Survey.

	Total n (%)
<i>Military connection</i>	
No one	12,555 (86.5)
Parent	1338 (9.2)
Sibling	619 (4.3)
<i>Deployment</i>	
None	7828 (72.7)
One	1034 (9.6)
Two or more	1906 (17.7)
<i>Changed school in past 5 years</i>	
None to three	13,824 (95.3)
Four or more moves	688 (4.7)
<i>Gender</i>	
Female	7358 (51.7)
Male	6866 (48.3)
<i>Grade</i>	
7th	4588 (32.9)
9th	4908 (35.2)
11th	4446 (31.9)
<i>Race/ethnicity</i>	
Asian/Al/HI/AN	1223 (8.7)
Black	419 (2.9)
White	3929 (27.9)
Mixed race	1651 (11.7)
Hispanic	6887 (48.8)
<i>In the past 12 months at school (yes)</i>	
<i>Physical</i>	
Pushed/shoved	4152 (29.9)
Afraid of being attacked	2746 (19.7)
Had property stolen	3637(26.24)
Been threatened with a weapon	1101 (8)
Seen someone with a weapon	3863 (27.8)
<i>Nonphysical</i>	
Had rumors spread	5712 (41.2)
Sexual jokes/gestures	6312 (45.5)
Made fun of because of look	5372 (38.7)
Had rumors spread on the internet	2968 (21.5)
<i>Weapon carrying</i>	
Brought a gun to school	577 (4.2)
Brought a knife to school	1205 (8.7)
<i>Property</i>	
Any physical	6857 (48.8)
Any nonphysical	8736 (62.4)
Any weapon carrying	1333 (9.6)

As shown in Table 1, 9.2% reported having a parent in the military and an additional 4.3% indicated that they have a sibling serving. A majority of the sample (72.7%) reported that no one in their family had been deployed overseas in the past 10 years. Only 4.7% of the respondents reported changing schools four or more times in the past five years. Overall rates of physical violence for the whole sample ranged from 8% (being threatened with a weapon) to 29.9% (being pushed or shoved) with nearly half reporting at least one type of physical victimization in the past 12 months. Nonphysical victimization was more prevalent, with 21.5% reporting that they had rumors spread about them on the internet and 45.5% reporting that sexual jokes and/or gestures had been made toward them. Approximately 62% of the sample reported any nonphysical victimization. The rate of any weapon carrying was 9.6%.

Table 2 compared types of victimization by military-connectedness (no one, parent, or sibling) and family deployment (none, one, two or more). Over 83% of students with a parent currently in the military and 62% who had a sibling currently serving reported familial deployment in the past 10 years (data not shown). Students with parents and siblings in the military had higher rates on all physical victimization measures. For example, the prevalence of having been pushed or shoved

at school in the last 12 months was 28.9%, 38.2% and 32.8% for nonmilitary-connected, parent serving, or sibling serving, respectively (Rao–Scott $\chi^2 = 48.1$, $p < .001$; see Table 2). Those respondents who had a parent in the military reported the highest rates of any physical (56.8%; Rao–Scott $\chi^2 = 22.1$, $p < .001$) and any nonphysical victimization (68.1%; Rao–Scott $\chi^2 = 37.7$, $p < .001$), and any weapon carrying (14.4%; Rao–Scott $\chi^2 = 39.3$, $p < .001$). Students with siblings in the military had consistently higher rates than those students with no military background, but consistently lower rates than those with parents in the military. Similarly, students who reported familial deployment had higher rates of all physical victimization measures (see Table 2).

MLR results

Table 3 presents the results of the three MLR analyses. Controlling for grade, gender, and race/ethnicity, both deployments and changing schools were found to be predictive of physical and nonphysical victimization as well as weapon carrying. Reporting changing schools four or more times in the past five years was associated with an increased likelihood of physical victimization (OR = 1.53, 95% CI = 1.27–1.85) and an 84% increase in the odds of weapon carrying. Compared to reporting no familial deployments, two or more family member deployments was associated with a 71% increase in the odds of reporting physical victimization and a 54% increase in the odds of weapon carrying. Having a parent in the military increased the odds of weapon carrying by 29% (CI = 1.02–1.65) compared to those who had no military connection. Additional analyses were conducted to examine if there were any significant interactions between number of moves, familial deployment, and military connection by grade and gender. None of the interaction terms were found to be significant.

Discussion

Despite their potential for vulnerability in school settings, few inquiries have explored school victimization experiences of military students. This study is one of the first large-scale normative studies of peer victimization of adolescents from military families. The study also compares military students with their same-grade peers from nonmilitary families. Finally, the present study adds data on the potential influence of sibling service on peer victimization.

The findings of the higher prevalence of weapon carrying, being threatened with a weapon, and seeing a weapon on school grounds among military-connected youth are particularly concerning. It is possible that having a military-connected family member allows youth access to weapons in the home. Additionally, multiple deployments may contribute to increased weapon carrying if a parent is deployed and parental monitoring declines in the absence of the other parent. Being in the minority, being new at school or being picked on frequently by civilian students may also increase a military student's willingness to carry a weapon on school grounds. The higher rates of weapon carrying among military-connected children reported here are similar to recent unpublished findings about military children and weapon carrying on a normative school-based sample in Washington State (Reed et al., 2011a). Additionally, the number of familial deployments was associated with an increased likelihood of reporting weapon carrying in both studies for military students (Reed et al., 2011a).

The findings show that the number of wartime deployments is associated with elevated risk for victimization and weapon carrying behaviors on school grounds. This could be due to greater strain or stress on children and their family members. These negative influences may linger even after a family member has been discharged and is no longer eligible for deployment. There is some research to suggest that the increasing number and length of deployments may be exhausting the resiliency of military-connected youth (Chandra et al., 2010a). More studies that examine the contextual supports of students who have had multiple deployments and are not experiencing higher rates

Table 2
Percentages of demographic characteristics and violence and victimization by military-connected youth and past 10 years family member deployments in the 2011 California Healthy Kids Survey (n = 14,512).

	Military connection			Number of deployments		
	No one in the military (n = 12,555)	Parent (n = 1338)	Sibling (n = 619)	None (n = 7828)	One (n = 1034)	Two or more (n = 1906)
<i>Gender</i>						
Female	51.7	51.7	51.5	52.2	50.1	54.1
Male	48.3	48.3	48.5	47.8	49.9	45.9
<i>Grade^{a,b}</i>						
7th	32.3	40.6	25.6	27.4	34.7	34.8
9th	35.4	33.6	33.9	35.5	35	34.1
11th	32.3	25.8	37.5	37.1	30.3	31.1
<i>Race/ethnicity^{a,b}</i>						
Asian/Al/HI/AN	8.3	12.7	7.8	7.4	9.5	13
Black	2.5	6.9	4.1	2.3	4.3	4.5
White	27.9	26.1	31.5	34.5	25.7	28.9
Mixed race	10.8	18.9	13.5	9.9	17.7	16.3
Hispanic	50.5	35.3	43.1	48.9	42.8	37.3
<i>Changed school in past 5 years^{a,b}</i>						
None to three	96.0	88.6	94.5	96.2	93.3	90.5
Four or more moves	4.0	11.4	5.49	3.8	6.7	9.6
<i>In the past 12 months at school (yes)</i>						
<i>Physical</i>						
Pushed/shoved ^{a,b}	28.9	38.2	32.8	25.7	34.8	37
Afraid of being attacked ^{a,b}	18.9	27.2	20.4	16.5	23.7	24.4
Been in a fight ^{a,b}	18.7	25.7	21.8	15.4	23.4	23.8
Had property stolen ^{a,b}	25.4	32.8	29.1	23.5	30.6	32.6
Been threatened with a weapon ^{a,b}	7.2	13.1	10.8	5.7	10.3	11.1
Seen someone with a weapon ^{a,b}	27.3	31.8	30.3	24.1	30.3	34.6
<i>Nonphysical</i>						
Had rumors spread ^{a,b}	40.6	45.7	43.3	38.1	47.9	49
Sexual jokes/gestures ^{a,b}	44.8	51.1	48.5	42.6	51.3	55.5
Made fun of because of looks ^{a,b}	37.8	46.7	40.3	35.7	42.2	45.5
Had rumors spread on the internet ^{a,b}	20.7	27	26	19.4	24.8	29.2
<i>Weapon carrying</i>						
Brought a gun to school ^{a,b}	3.6	8.3	5.8	2.8	5.6	5.4
Brought a knife to school ^{a,b}	8.2	12.9	10.0	6.7	9.8	10.8
<i>Any victimization or weapons</i>						
Any physical ^{a,b}	47.9	56.8	50.5	43.7	55.0	57.5
Any nonphysical ^{a,b}	61.6	68.1	65.2	61.3	71.1	72.9
Any weapon carrying ^{a,b}	8.9	14.4	11.4	7.3	11.2	11.6

^a Significant χ^2 for differences by military-connected status; $p < 0.01$.

^b Significant χ^2 for differences by number of deployments; $p < 0.001$.

of violence at schools are needed. Finally, military families as a culturally diverse group have rarely appeared in the literature as potentially vulnerable. School safety studies and intervention programs may need to address war issues (e.g., multiple deployments, possible parental death or injury) affecting military students.

A key contribution of this study is the assessment of changing schools. Relocation to new communities and schools is a stressful experience in and of itself (Devine and Scanlon, 2001). Such relocations cause youth to lose important social supports and networks. Additionally for military-connected youth, these moves may also coincide with deployment cycles whereby they lose the support of one of their parents. How parental deployments specifically affect military adolescents' experiences with peer victimization is an area that needs further exploration in the research literature.

Parental relationships are salient in how youth deal with both relocations and parental deployments. The mental health of the remaining caregiver and the deployed parent has an impact on how well the youth copes (Chandra et al., 2010a; Dekel and Goldblatt, 2008; Flake et al., 2009; Huebner and Mancini, 2005; Palmer, 2008). There is evidence to suggest that in early adolescence, there is a reciprocal relationship between peer victimization and depression (Sweeting et al., 2006). Thus, military-connected youth may be at risk for a vicious cycle of anxiety and/or depression around family military service and peer victimization. Additionally, the prevalence rates reported in this study

suggest that future research carefully explores the impact of sibling military service on youth school victimization and weapon carrying behaviors.

The present study provides some of the first normative rates of peer victimization and weapon carrying experienced by military-connected youth and their peers. However, there are limitations that must be noted. First, the data are cross-sectional and thus causality cannot be determined. Secondly, measures for other confounds, such as, socioeconomic status of the youth, were not assessed. This important limitation notwithstanding, there is research to suggest that controlling for additional confounders does not eliminate the overarching stress of multiple moves on youth development (Long, 1975; Wood et al., 1993). Additionally, studies of the association of familial deployments on youth outcomes also show consistent results even in the presence of socioeconomic status indicators (Lester et al., 2010; Reed et al., 2011a,b). Finally, multivariate models in recent studies of youth victimization (Bowes et al., 2009; Wynne and Joo, 2011) indicate that socioeconomic status is not a significant predictor of victimization.

Peer victimization has been shown to be related to substance use, poor academic outcomes, truancy, loneliness, depression, and suicidal ideation (Gastic, 2008; Glew et al., 2008; Juvonen et al., 2003; Klomek et al., 2007; Tharp-Taylor et al., 2009). Additionally, recent headlines related to school violence with weapons have highlighted the potential

Table 3

Logistic regression of past 12 months school victimization and weapon carrying in the 2011 California Healthy Kids Survey.

Predictors	Any physical violence n = 10,330 OR (95% CI)	Any nonphysical n = 10,330 OR (95% CI)	Any weapon carrying n = 10,309 OR (95% CI)
<i>Grade</i>	0.77 (0.73–0.80)*	0.96 (0.92–1.01)	0.92 (0.84–1.01)
<i>Gender</i>			
Female (reference)	1.00	1.00	1.00
Male	1.47 (1.35–1.59)*	0.53 (0.49–0.58)*	2.84 (2.43–3.32)*
<i>Race/ethnicity</i>			
White (reference)	1.00	1.00	1.00
Asian/Al/AN/PI/HI	0.99 (0.85–1.16)	0.93 (0.79–1.10)	1.03 (0.76–1.38)
Black	0.87 (0.68–1.12)	0.96 (0.73–1.25)	2.04 (1.40–2.98)*
Mixed	1.21 (1.05–1.39)*	0.96 (0.83–1.11)	1.22 (0.95–1.56)
Hispanic	1.03 (0.94–1.14)	0.75 (0.68–0.83)*	1.35 (1.13–1.62)*
<i>Moves</i>			
None to three	1.00	1.00	1.00
Four or more	1.53 (1.27–1.85)*	1.28 (1.04–1.56)*	1.84 (1.41–2.40)*
<i>Deployments</i>			
None	1.00	1.00	1.00
One	1.53 (1.33–1.77)*	1.53 (1.32–1.79)*	1.50 (1.19–1.89)*
Two or more	1.71 (1.51–1.94)*	1.61 (1.41–1.84)*	1.54 (1.25–1.88)*
<i>Military-connection</i>			
None (reference)	1.00	1.00	1.00
Parent	0.97 (0.83–1.13)	0.93 (0.79–1.10)	1.29 (1.02–1.65)*
Sibling	0.92 (0.76–1.13)	1.02 (0.83–1.26)	0.99 (0.70–1.39)

* Denotes significant odds ratio ($p < .05$).

consequences of school-related victimization and/or weapon carrying at school. Thus, the key findings of this study—that youth who experience family member deployments and multiple school relocations are at increased risk for school victimization and weapon carrying—have several research and practice implications. First, school personnel should be cognizant of whether incoming students are military-connected (not all youth will be near bases given the increased utilization of National Guard and Reserves over the past 10 years), whether they have experienced family member deployments, and/or whether they have experienced multiple school relocations. Awareness of youth's unique experiences can allow schools to implement peer support programs or increase teacher vigilance to deter peer victimization in common areas. School-based prevention strategies for bullying may need to incorporate consideration of the circumstances of military students during times of parental and sibling deployments and familial relocations to create safer school environments for military-connected youth. Relatedly, comprehensive programming may be warranted to integrate new students into schools and provide additional supports for dealing with family member deployment. It also provides impetus for community-based service providers surrounding military-connected schools to develop adaptive coping treatment protocols to aid youth in dealing with the stressors of military family life. Finally, to our knowledge this is the only published study to focus on victimization and weapon carrying among military connected youth in public schools. Additional studies in different regions of the U.S., in the Department of Defense Education Activity schools, and utilizing nationally representative samples are needed.

Conflict of interest statement

The authors declare that there are no conflicts of interest.

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