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DePaul Discoveries

Volume 1 | Issue 1 Article 1

2012

Child Maltreatment, Exposure to Violence, and Adolescent Weapon Carrying

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Acknowledgements

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ABSTRACT This study examined associations between child maltreatment, violence exposure, and gender in predicting subsequent adolescent weapon carrying. Data from the National Survey of Child and Adolescent Well-Being, a nationally representative longitudinal study of families in contact with the child welfare system, were used. Participants included 821 youth who were followed over five years. Results from a logistic regression suggested that male youth who reported physical abuse at baseline were less likely to report carrying a weapon any time across the follow up period, while physical abuse did not predict weapon carrying in females. These counterintuitive findings demonstrated a complex relationship between violence exposure and subsequent risk behaviors among a vulnerable population of youth.

National studies suggest that nearly 15 percent of youth aged 12-21 report carrying a weapon (Lowry, 1998). Significant associations between child maltreatment and adolescent weapon carrying have been demonstrated in the literature. Lewis and colleagues (2007) sampled 797 adolescents and found that 6.5% had carried a weapon or threatened another individual with a weapon in the past year. Youth in this study were more likely to report weapon carrying if they had also reported physical or sexual abuse. Furthermore, 11.9% of participants revealed that they felt they needed a weapon for protection and were more likely to report this perception if they had been physically or sexually abused. Another study by Leeb, Barker, and Strine (2007) collected data from 3487 students in grades 7, 9, 11 and 12 in a high-risk community school district and found that 16% of the sample reported carrying weapons at baseline. Child maltreatment was a significant predictor for weapon carrying.

Evidence also exists to indicate an association between youth weapon carrying and exposure to violence in and out of the home. For instance, Forrest and colleagues (2000) found that students who reported being threatened with a gun or knife were four to six times more likely to carry a weapon to school than those without such experiences. The connection between violence exposure and weapon carrying may be modified by gender. Gender differences have been found in both adolescent weapon carrying behavior and in outcomes of maltreated youth, in general. For instance, several studies have concluded that males are more likely than females to act aggressively and carry weapons (Kulig et al., 1998; Lowry et al., 1998).

Although studies have shown associations between child maltreatment, exposure to violence, and weapon carrying, few studies known to the authors have used national

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longitudinal data to examine the role of gender amongst these relationships, nor has research investigated multiple types or severity of violence exposure together in predicting weapon carrying. Additionally, little work has been done regarding the influence of parental psychological aggression as a form of maltreatment that may predict future weapon carrying. The present study aimed to identify the risk factors of child maltreatment and exposure to violence and on weapon carrying among at risk adolescents. In addition, the role of gender was tested as a potential moderating variable of this relationship.

HYPOTHESES

We hypothesized that youth exposed to higher levels of maltreatment or violence would be more likely to have an incident of carrying weapons across 3 follow up waves spanning 72 months. It was also hypothesized that gender will have a significant moderating effect on the relationship between child maltreatment and exposure to violence on adolescent weapon carrying. Specifically, we believed that males would be more likely to have an incident of carrying weapons when exposed to greater levels of violence than females.

METHODS

PARTICIPANTS

The National Survey of Child and Adolescent Well-Being (NSCAW) is a nationally representative longitudinal study of youth and families in the child welfare system. It includes information on 5,501 adolescents who were subjects of child abuse or neglect investigations. Information was collected from youth, caregivers, caseworkers and teachers. Data was collected during five waves. Children ranged from ages 0 to 14 at the initial interview. Inclusion criteria for these analyses required that youth be at least 11 years of age at wave 1, and had data from at least one of three follow-up interviews. Of the 5501 children sampled for NSCAW, 1179 met inclusion criteria. Follow up data were available for 831 of these youth at 18-97 months post-baseline.

MEASURES

Child maltreatment was measured using the total physical assault and psychological aggression subscales of youth self-reports on the Parent-Child Conflict Tactics Scales (Straus, et al., 1998). This widely used scale was developed to assess the spectrum of parental discipline methods. The total physical assault score used was a sum score of twelve items (e.g. "In the past twelve months, how many times have your parents or other adults who lived with you hit you with a fist or kicked you hard"). Cronbach's alpha for the total physical assault score in NSCAW was .97, indicating excellent internal consistency. Additionally, the psychological aggression subscale was comprised of five items (e.g. "In the past twelve months, how many times have your parents or other adults who lived with you sworn or cursed at you?").

Exposure to violence was measured using subscales measuring mild and severe violence exposure as a witness of the Violence Exposure Scale for Children (Fox & Leavitt, 1995). This scale was comprised of a 23-item youth self-report questionnaire where children are asked to respond to verbal descriptions of violent acts, ranging from "How many times have you seen an adult beat-up another person in a home you've lived in?" to ""How many times have you seen a person stab another person with a knife in the home you've lived in?" The variables used were dichotomous scores indicating whether or not a child had witnessed at least one mild or severe episode of violence in the home. This measure has been used in many studies assessing exposure to violence (Stein et al., 2001). In NSCAW, internal consistency was high for the subscales (ranging from .86 to .92).

Weapon carrying was measured using a single item on the Self Report of Delinquency measure (Elliott & Ageton, 1980). The question used in the present study asked, "In the past 6 months, have you carried a hidden weapon?" Youth were asked to respond yes or no. No follow up questions ascertained type of weapon carried, prohibiting further exploration. Data from waves 3, 4, and 5 were used to create a dichotomous variable of whether

or not a participant had an incident of weapon carrying behavior. If a child participated in at least one of the follow-up waves and reported "yes" to having carried a hidden weapon in at least one of the waves, they were considered to have had an incident of weapon carrying. If a child participated in at least one of the follow-up waves and never reported "yes" in any wave, they were considered not to have had an incident of weapon carrying.

Delinquency as a covariate was measured using the Self Report of Delinquency at baseline (Elliott & Ageton, 1980), which asks youth 72 questions about specific delinquent acts and their frequencies. Items included "In the past six months, have you run away from home?" where youth were asked to respond yes or no. Then, youth were asked about frequency. For example, "How many times in the past six months have you run away from home?" Youth were asked to respond one, two, three, four, five or more times, or I haven't done this in the past six months. The delinquency score used was a sum score of the frequencies of any endorsed delinquent act. In NSCAW, internal consistency was high (α= .98), and the measure has demonstrated adequate validity in its use in other national studies (Elliott & Ageton, 1980).

Sociodemographic and child welfare characteristics were included as covariates in the model. These include child gender, age, ethnicity/race, caregiver reported family income at baseline, and child abuse type. Abuse type was defined as the main reason Child Protective Services investigated the family at baseline. It was divided into four categories: physical abuse, sexual abuse, neglect, and emotional abuse.

PROCEDURES

Data was collected using a probabilistic sampling method. The United States was divided into nine sampling strata, eight of which were the eight states with the highest child welfare caseloads. The ninth consisted of the remaining 42 states and the District of Colombia. Families were randomly selected from 97 counties throughout the nation. All children had been involved in a child welfare investigation within the past 6 months. The current caregiver and the child who had been the source of the investigation were interviewed in person at baseline(wave 1), 18 months after baseline (wave 3), 36 months past baseline (wave 4) and 59-97 months past baseline (wave 5). Wave 2 consisted of shorter phone interview and was completed 12 months past baseline. Data from waves 1, 3, 4, and 5 were used in these analyses.

RESULTS

The present study examined the relationships between child maltreatment, exposure to violence, and subsequent incidence of weapon carrying behavior. Descriptive statistics, including means, percentages, and standard deviations, are reported for each baseline variable in Table 1. Variable values were transformed, to reduce multicollinearity, using mean-centering procedures, specifically subtracting the mean of scores from each original score.

Hierarchical logistic regressions analyzed the independent and interactive effects of exposure to violence and child maltreatment at baseline on incident of weapon carrying behavior in waves 3, 4, or 5 after controlling for child demographics, type of alleged abuse that led to initial investigation, and child delinquency at baseline. Variables were entered into the regression equations by blocks in the following order. First, child gender, ethnicity, age, adjusted family income, type of alleged abuse that led to the initial investigation were entered. Second, composite scores denoting the frequency of witnessing mild violence, witnessing severe violence, experiencing psychological aggression, and experiencing physical assault were entered. Third, interaction terms were entered between gender and frequency of witnessing mild violence, gender and frequency of witnessing severe violence, gender and frequency of experiencing psychological aggression, and gender and frequency of experiencing physical assault.

Results from the final model are displayed in Table 2.

Family income was a significant predictor, such that youth from families reporting lower incomes were more likely to have an incident of weapon carrying. Youth investigated for sexual abuse were less likely, compared to youth investigated for other reasons, to carry a weapon at follow up, while youth who reported greater delinquency at baseline were more likely. In addition, a significant interaction was found indicating gender as a moderator of the relationship between frequency of experiencing physical assault at baseline and subsequent weapon carrying behavior 24 to 36 months later. Males were less likely to have an incident of carrying weapons when reporting more physical assault, but physical assault did not significantly predict weapon carrying for females. Findings are visually displayed in Figure 1.

DISCUSSION

This study hypothesized that a positive relationship would exist between exposure to violence and the likelihood of later carrying a weapon. After controlling for demographics and child welfare experiences, findings indicate that no main effect existed. Overall, youths exposed to more or less violence and physical assault were no more likely to carry a weapon later in adolescence. Our exploration of the role of gender revealed surprising and counterintuitive findings. In our analyses investigating child maltreatment and exposure to violence as predictors for subsequent incidents of weapon carrying in adolescence, we found significance for physical aggression predicting an individual's subsequent likelihood of carrying a weapon in males only, accounting for a significant amount of the explained variance in the model. While gender itself does not significantly predict weapon carrying in adolescence, we found significant differences between males and females who had been physically abused for later weapon carrying. While physical abuse did not predict weapon carrying for females, males were actually less likely to carry weapons if they had been physically abused. This relationship occurred even after statistically controlling for the effects of race, age, family income, type of abuse and baseline delinquency. This is surprising given the amount of research that suggests a positive relationship between violence in life to subsequent weapon carrying (Forrest et al., 2000; Leeb et al., 2007; Lewis et al., 2007; Rudatsikira et al., 2007).

In coming up with an explanation for this counterintuitive finding, the different lenses through which males and females perceive violence exposure were considered. Gender seems to frame the experience of specific types of violence for males. Males might have embedded gender stereotypes that tell them to be strong and defend. It can be hypothesized that physical abuse attacks these preconceptions about how they should act, leading to feelings of hopelessness, or feelings of uselessness in carrying a weapon. These same gender roles might not be ingrained in females, so when physical abuse occurs their preconceptions are not being as fiercely attacked, so the weapon carrying outcome cannot be as strongly predicted. On a more positive end, maltreated males might learn that violence is not an effective method of dealing with problems; experiences in their homes growing up may sensitize them toward interactions outside of the home in later adolescence. The abuse they experience might teach them to avoid violence.

There are several limitations in the present study. First, findings may underestimate weapon carrying because youth were only asked if they carried weapons in the past six months. Additionally, the term weapon is not defined in the current study as in previous studies (Leeb et al., 2007; Lewis et al., 2007). The low percentage of youth who reported carrying a weapon might also be explained by the fact that the current study utilized a population different from previous research, as all youth in NSCAW are child-welfare involved. In addition, the present study relied only on self-reported data from youth. Future research should include information from parents and children's caseworkers to more accurately assess children's lives. Including information on peer factors, parental factors and community level exposure to violence outside of the home will more accurately show what can lead to adolescents carrying weapons.

CONCLUSION

This study investigated violence exposure and maltreatment as predictors of later weapon carrying in adolescence. The counterintuitive and unexpected findings provide a complex picture for services aimed at maltreated youth. Because maltreated males were less likely for subsequent weapon carrying, there is a need for future exploration to look more closely at gender differences in youth outlook on violence and weapon carrying and how abuse shapes future outlooks on violence.

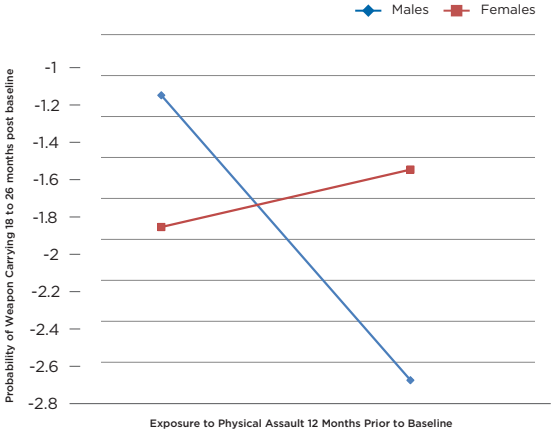

FIGURE 1

The moderating effect of gender on the relationship between exposure to physical assault and carrying a weapon.

TABLE 1

Percentages, Means, and Standard Deviations for Baseline Study Variables (N = 1179)

Variable	Mean/%	Standard Deviation
Child gender (%)		
Female	57.9	--
Child age	12.75	1.30
Child race (%)		
Black	30.4	--
White	44.5	--
Hispanic	15.4	--
Income (%)		
<$10K	16.1	--
$20K–$20K	24.4	--
$30K–$39K	26.6	--
>$40K	17.6	--
Abuse Type (%)		
Sexual Abuse	18.7	--
Neglect	38.8	--
Physical Abuse	25.5	--
Emotional	13.0	--
Other	9.0	--

TABLE 2

Coefficient and Model Significance on Weapon Carrying

Model	*b*	*SE b*	*Exp b*	*p*
Step 1				
Child gender (%)	.16	.26	1.32	.53
Child race	.02	.14	1.01	.90
Child age	.13	.10	1.05	.21
Family Income	-.31	.13	.76	.02
Abuse Type				
Physical Abuse	-.11	.36	2.70	.76
Sexual Abuse	-1.35	.52	.55	.01
Neglect	-.68	.37	1.03	.07
Delinquency	.02	.01	1.03	.01
Step 2				
Exposure to Violence				
Witnessing Mild Violence	.22	.44	.77	.62
Witnessing Severe Violence	.32	.27	1.06	.24
Child Maltreatment				
Psychological Aggression	.00	.01	1.04	.73
Physical Assault	.01	.01	.94	.29
Step 3				
Gender x Witnessing Mild Violence	.31	.97	1.51	.75
Gender x Witnessing Severe Violence	.09	.55	1.18	.87
Gender x Psychological Aggression	-.02	.01	.98	.20
Gender x Physical Assault	.04	.02	1.04	.03

Notes: Child gender dummy coded as *male* = 0 and *female* = 1; The reference condition for Abuse Type combined all other abuse categories; Weapon carrying dummy coded as *No* = 0 and *Yes* = 1.

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