Child Maltreatment: Risk of Adjustment Problems and Dating Violence in Adolescence

DAVID A. WOLFE, PH.D., KATREENA SCOTT, M.A., CHRISTINE WEKERLE, PH.D., AND ANNA-LEE PITTMAN, M.LIS.

ABSTRACT

Objective: To examine the relationship between child maltreatment, clinically relevant adjustment problems, and dating violence in a community sample of adolescents. **Method:** Adolescents from 10 high schools (N = 1,419; response rate = 62%) in southwestern Ontario completed questionnaires that assessed past maltreatment, current adjustment, and dating violence. Logistic regression was used to compare maltreated and nonmaltreated youths across outcome domains. **Results:** One third (n = 462) of the school sample reported levels of maltreatment above the cutoff score on the Childhood Trauma Questionnaire. Girls with a history of maltreatment had a higher risk of emotional distress compared with girls without such histories (e.g., odds ratios [OR] for anger, depression, anxiety, and posttraumatic stress–related problems were 7.1, 7.2, 9.3, and 9.8, respectively). They were also at greater risk of violent and nonviolent delinquency (OR = 2.7) and carrying concealed weapons (OR = 7.1). Boys with histories of maltreatment were 2.5 to 3.5 times as likely to report clinical levels of depression, posttraumatic stress, and overt dissociation as were boys without a maltreatment history. They also had a significantly greater risk of using threatening behaviors (OR = 2.8) or physical abuse (OR = 3.4) against their dating partners. **Conclusions:** Maltreatment is a significant risk factor for adolescent maladjustment and shows a differential pattern for male and female adolescents. *J. Am. Acad. Child Adolesc. Psychiatry*, 2001, 40(3):282–289. **Key Words:** maltreatment, adolescence, dating violence, child abuse.

Child maltreatment has pronounced effects on mental health, affecting dimensions of development such as peer and intimate relationships, self-regulation of emotions, and behavioral adjustment (Kaplan et al., 1999). Maltreatment experiences in childhood contribute to difficulty in accurately inferring emotional reactions in others, which in turn results in problematic interpersonal interactions with peers (Shields et al., 1994) and dating partners (Rogosch et al., 1995). Impairments in significant areas of child development caused by maltreatment may account for the elevated symptoms of depression (Toth et al., 1992), anxiety and posttraumatic stress (McCloskey and Walker, 2000), and suicidal ideation (Brown et al., 1999) among children and adolescents with histories of physical and sexual abuse.

In a recent community-based study, a history of physical abuse was associated with significant functional impairments, such as poor social competence and psychiatric problems (Flisher et al., 1997). Twenty-four percent of children and adolescents with histories of physical abuse met criteria for a mood disorder; 31% met criteria for attention-deficit/hyperactivity disorder, conduct disorder, or oppositional defiant disorder; and more than 55% met criteria for an anxiety disorder. Odds ratios that describe the likelihood of having one of these disorders if physical abuse was present versus absent are telling. Those with histories of physical abuse were about three times more likely to suffer a mood disorder, four times more likely to show a disruptive disorder, and two to four times more likely to have an anxiety disorder than their nonabused counterparts.

Accepted September 19, 2000.

Dr. Wolfe, Ms. Scott, and Ms. Pittman are with the Department of Psychology, University of Western Ontario, London, Ontario, Canada; Dr. Wekerle is with the Department of Psychology, York University, York, Ontario, Canada.

This study was supported by a grant from the Ontario Mental Health Foundation to Drs. Wolfe and Wekerle. The authors thank the following school boards for their assistance with this study: Thames Valley District, London/Middlesex Catholic, North York, Victoria County, and the Manitoulin District. Special appreciation is extended to Lorrie Lefebvre for data preparation.

Reprint requests to Dr. Wolfe, Department of Psychology, University of Western Ontario, London, Ontario, Canada N6A 5C2; e-mail: dawolfe@julian.uwo.ca.

It is not surprising that child maltreatment has also been linked to a variety of disorders in adulthood, such as trauma-related anxiety and distress, depression, and criminal behavior, which underscores the intensity and impact of early childhood abuse across the life cycle (Widom, 1998). Child abuse is significantly associated with more arrests as a juvenile or adult (Widom, 1989), and more sexual and physical violence as a young adult, especially for males (Feldman, 1997). Correlational studies show that even lesser forms of abuse, such as slapping and spanking, that one experiences as a child are significantly associated with later anxiety disorders (MacMillan et al., 1999) and violent behavior (Straus and Kantor, 1994).

Despite awareness of the connection between child maltreatment and subsequent disorders, studies have only recently investigated the impact of maltreatment on adolescent behavior. For example, adolescents with histories of maltreatment have a greater risk of depression and suicidal behavior, especially those with sexual abuse histories (Brown et al., 1999). Adolescence is a transitional period in which one's interpersonal goal is to establish affective ties independent of the family, closely influenced by the peer network and romantic partnerships (Hazan and Shaver, 1994). However, previous experiences of child maltreatment are significantly more likely to lead to negative relationship formation in the absence of compensatory factors (Capaldi and Crosby, 1997) and to attract victims to peers who are most like themselves, particularly in relation to aggressive and delinquent behavior (Dishion et al., 1995).

It is important to note that the cumulative effects of maltreatment experienced in childhood may become problematic during the formation of intimate dating relationships. Violence and abuse toward intimate partners is estimated to be a common event among high school students, occurring in more than 25% of dating relationships (Avery-Leaf et al., 1997; Foshee et al., 1996). It is not surprising that, on the basis of community samples of high school (Wolfe et al., 1998) and university students (Reitzel-Jaffe and Wolfe, 2001), as well as children from protective services agencies with documented maltreatment histories (Wolfe and McGee, 1994), experiencing maltreatment in the family of origin is a substantial risk factor for such dating violence.

The current study was designed to examine the connection between child maltreatment experiences and clinically significant mental health problems in adolescence, with a particular focus on relationship formation and interpersonal problems. Youths with maltreatment histories were compared with those without such histories on levels of emotional distress, violent and nonviolent acts of delinquency, and involvement in abusive dating relationships. Because the effects of maltreatment often differ according to gender (Kaplan et al., 1999), we hypothesized that maltreated girls would report more distress-related symptoms, such as depression and anxiety, and that boys would report more acts of delinquency and dating violence, relative to nonmaltreated adolescents.

METHOD

Participants and Procedure

Participants in this study were students from 10 high schools (N = 1,419) located in urban, semirural, and rural communities in southwestern Ontario. The adolescents ranged in age from 14 to 19 years (mean = 16.1, SD = 1.1) and were evenly distributed across grade (9–11) and gender (55% female). They identified their ethnicity as white (79%), Pacific rim (6%), Aboriginal (5%), African descent (2%), or as other or unknown ethnicity (8%). A small sample of youths receiving services from Child Protective Services (CPS; N = 93) also participated in one aspect of the study. These youths (mean age = 16.6, SD = 1.4; 64% female) were receiving CPS services in the same communities as the school sample and self-identified as white (81%), Aboriginal (11%), or unreported (8%).

Teachers of students in grades 9 through 11 sent a research information letter to the homes of approximately 2,230 students. The letter requested parents' consent for their son or daughter to participate in a study of peer and romantic relationships and family background. The average participation rate was 62%, which ranged from 20% to 83% across schools. Participation rates were not influenced by socioeconomic status, and the results were not significantly altered when schools with lower participation were removed from the sample. A booklet containing several questionnaires was group-administered to consenting students by a research assistant during 75 minute of supervised class time; seating was adequately spaced to ensure confidentiality. The order of administration was dissimilar for half of the participants to minimize a possible order effect. Completed booklets containing only an identification number were sealed and placed in a container so that each respondent remained anonymous and the data would not be subject to mandated reporting. The last page of the booklet contained information on issues of dating violence and child maltreatment, including local agencies and help lines. Students who returned consent forms (indicating either consent or nonconsent) were entered into a drawing for a $20 gift certificate, and participating schools received a $300 honorarium.

Adolescents who were receiving assistance from CPS were approached by their social worker to participate in a research study involving dating relationships, and those who expressed initial interest were contacted by a research assistant by telephone. Of 120 youths contacted, 27 (23%) declined to participate. Informed consent was obtained from both the adolescent and his or her guardian prior to the adolescent's meeting with the research assistant. The youths met with a research assistant at CPS or a similar supervised location to complete the questionnaires and received $10 compensation. For both samples, information concerning parental education, occupation, and family composition was obtained from the consenting parent or guardian.

Assessment of Childhood Maltreatment. Adolescents' experiences of maltreatment were assessed with the Childhood Trauma Questionnaire (CTQ) (Bernstein et al., 1997). The CTQ (short form) contains

35 items concerning the frequency with which the respondent experienced or witnessed violence "while you were growing up." Items are rated on a 5-point scale (1 = "never true" to 5 = "very often true"). The CTQ has five subscales (emotional, physical, sexual abuse; emotional and physical neglect), each of which shows high internal consistency (α = .71–.93) and good overall convergent and discriminant validity (Bernstein et al., 1997). A 2-week test-retest comparison based on a random sample of 74 high school students from our sample indicated an acceptable level of reliability for these self-reports of maltreatment experiences (Pearson r = 0.76, p < .001). Validity of this self-report measure is further supported by the significant agreement between a subset of CPS youths and their social workers who completed a similar measure (based on MacMillan et al., 1997) (n = 67; total maltreatment score r = 0.49, p < .01). Overall maltreatment status was calculated in accordance with the "no/low" and "moderate/severe" categorical cutoff groupings reported by Bernstein et al. Grouping for each individual was based on his or her highest score on any one of the five subscales.

Assessment of Emotional Distress and Delinquency. Symptoms of emotional distress were assessed with 10 subscales of the Trauma Symptom Checklist for Children (TSCC) (Briere, 1996). The TSCC is a self-report measure of posttraumatic stress and related symptoms designed for children and adolescents (aged 8–16 years) that obtains frequency ratings of 54 items (0 = "never" to 3 = "almost all of the time"). Cronbach α values for the 10 subscales range from .77 to .89; construct, convergent, and discriminant validity are well established (Briere, 1996). Clinical cutoff norms for each subscale were used to categorize respondents. Violent and nonviolent acts of delinquent behavior were assessed with a modified version of the Self-Report Delinquency Scale (SRD). The SRD was used in the National Youth Survey, and reliability and external validity of youth self-reports have been strongly supported in previous research (Huizinga and Elliott, 1986). The SRD asks youths to indicate (yes or no) whether they have engaged in various delinquent behaviors over the past year. A positive score on the "nonviolent" category was obtained if the respondent answered yes to any of the following items: break and enter, car theft, vandalism, black market purchase or sale, driving under the influence, or drug trafficking. Similarly, "violent" delinquency was scored on the basis of a positive answer to any violent item: assault in a group, or alone, as part of another delinquent act; sexual assault; or assault with a weapon. A positive score for "carried a weapon" was based on that single item.

Assessment of Abuse Toward Dating Partners. The Conflict in Adolescent Dating Relationships Inventory (CADRI) (Wolfe et al., in press) is a 35-item measure of physical, verbal, and sexual abuse relating to adolescent dating partners. Respondents completed the instrument only in reference to an actual conflict or disagreement with a current or recent ex-dating partner over the past year (youths who had not dated someone for a month or longer did not complete this instrument). Response choices for each item were defined as *never* (0), *seldom* ("this has happened only 1–2 times"; 1), *sometimes* ("this has happened about 3–5 times"; 2), and *often* ("this has happened 6 times or more"; 3). Each question was asked twice, first in relation to the respondent's behavior toward dating partners and second in relation to dating partners' behavior toward them. The CADRI has strong internal consistency (total α = .83), 2-week test-retest reliability (r = 0.68, p < .001), and partner agreement (r = 0.64, p < .001) (Wolfe et al., in press). Perpetrator or victim status was based on at least one occurrence of physical or sexual abuse or threats; verbally abusive behaviors were not used because of high endorsement.

Data Analysis

To establish the validity of self-reported maltreatment history, maltreatment history and current functioning of high school adolescents who reported childhood maltreatment were compared with those of adolescents identified by CPS. Univariate χ^2 analyses were used for these comparisons. The focus then shifted to an examination of the incidence of clinically significant problems among high school youths who reported low and high levels of childhood maltreatment. Ten potentially confounding variables were screened to ensure that group differences were due to maltreatment history rather than co-occurring risk factors. Variables that were significantly associated with maltreatment history (p < .05) were entered on the first step of logistic regression analyses, followed by the maltreated versus nonmaltreated classification variable. Because of the large number of outcomes examined, two steps were taken to reduce the risk of type I error. First, following the suggestions of Biederman et al. (1999), we conducted a "pseudo-omnibus" test within each domain of functioning by summing the Pearson χ^2 statistic across all domain-specific subscales and evaluating it against the total degrees of freedom. Analysis of differences between maltreated and nonmaltreated youths on this omnibus test guided interpretation of comparisons within that domain. Second, a stringent α level (p < .01) was adopted for testing statistical significance that involved individual subscale comparisons.

RESULTS

Each type of maltreatment was reported by approximately one in eight male and female adolescents in the community sample (Table 1). Types of maltreatment experiences varied little by gender except for sexual abuse, which was reported by about 1 in 10 females and about 1 in 20 males. When aggregated across all five forms of maltreatment, approximately one third of the sample (462/1,419) met criteria for the maltreatment category.

We first explored the hypothesis that high school students who reported histories of maltreatment (n = 462) would report similar types of child maltreatment and adjustment problems as youths with known maltreatment histories (CPS sample). As predicted, χ^2 analyses revealed few differences in self-reported history of abuse

TABLE 1
Types of Maltreatment Reported by Male and Female Adolescents (N = 1,419)

	Females (n = 812)	Males (n = 607)
Emotional abuse	151 (18.8)	61 (10.4)
Emotional neglect	90 (11.2)	71 (12.0)
Physical abuse	90 (11.2)	61 (10.4)
Physical neglect	95 (11.9)	87 (14.7)
Sexual abuse	95 (11.9)	33 (5.6)

Note: Values represent n (%). Child maltreatment was based on moderate or severe cutoff scores from the Childhood Trauma Questionnaire. All adolescents with eligible responses for each subscale were included in analyses; thus, the number of adolescents with available data for each subscale varied slightly.

or clinical outcomes between adolescents known to CPS and those with self-reported maltreatment. The rate of clinically elevated problems among youths from CPS versus high school samples was also statistically equivalent in all but one case (i.e., youths in the school sample were considerably more likely to report engaging in nonviolent delinquency than those from CPS; 44.9% versus 27.7%, respectively). These results supported the following strategy of studying the impact of child maltreatment in a large, representative community sample.

Association of Childhood Maltreatment to Clinical-Level Outcomes in Adolescence

Table 2 compares 10 demographic and relationship characteristics of high school youths reporting no/low or moderate/severe maltreatment. Maltreated youths were less likely to be living in an intact family ($\chi^2_1 = 19.81$, $p < .01$) and more likely to be living in a family that depended on public assistance ($\chi^2_1 = 4.85$, $p < .05$). Parents of maltreated youths were less educated ($\chi^2_3 = 14.39$ and 24.46 for mother's and father's education, respectively, $p < .01$) and were less likely to be employed in higher-level positions ($t_{1157} = 2.20$ and 3.10 for mother's and father's occupational level, respectively; $p < .01$). No differences were noted in the characteristics of the relationships on which maltreated and nonmaltreated youths were reporting (i.e., type, length, or age of dating partner).

Table 3 shows the risk of clinical-level outcomes among female and male high school youths with a history of maltreatment versus those without, as well as base rates for each outcome for the full sample. Notably, base rates for delinquency and dating violence for the full sample

TABLE 2
Demographic and Relationship Characteristics of Maltreated and Nonmaltreated Adolescents ($N = 1,419$)

	Maltreatment Classification[a]				
	Nonmaltreated ($n = 957$)		Maltreated ($n = 462$)		Statistic
Living in intact family (*n*, %)	782	(83)	337	(73)	
Not intact family	159	(17)	125	(27)	$\chi^2_1 = 19.81$**
Public assistance (*n*, %)	77	(8)	54	(12)	
No public assistance	860	(92)	400	(88)	$\chi^2_1 = 4.85$*
No. of siblings (mean, SD)	1.43	(1.01)	1.5	(1.3)	$t_{1103} = 0.13$
Father's occupational level (mean, SD)	4.83	(1.53)	4.5	(1.5)	$t_{1157} = 3.10$**
Mother's occupational level (mean, SD)	5.26	(1.77)	5.0	(1.8)	$t_{1075} = 2.20$*
Father's education (*n*, %)					
Less than high school	126	(14)	104	(25)	
High school graduate	293	(33)	114	(27)	
College or vocational school	251	(28)	120	(28)	$\chi^2_3 = 24.46$**
University or postgraduate	223	(25)	84	(20)	
Mother's education (*n*, %)					
Less than high school	102	(11)	78	(18)	
High school graduate	306	(34)	154	(35)	$\chi^2_3 = 14.39$**
College or vocational school	280	(31)	121	(28)	
University or postgraduate	222	(24)	84	(19)	
Dating relationship (*n*, %)					
Current	238	(36)	135	(40)	
Recent partner (<3 mo)	166	(25)	88	(26)	$\chi^2_2 = 2.31$
Past partner (>3 mo)	262	(39)	118	(35)	
Length (weeks) of most recent dating relationship (mean, SD)	23.12	(31.4)	23.6	(30.1)	$t_{1129} = -0.27$
Age of dating partner (mean, SD)	15.7	(3.7)	15.7	(2.6)	$t_{1103} = 0.13$

Note: Cell sizes differ slightly because of missing data for some variables.
[a] Child maltreatment classification was based on empirically derived cutoffs from the Childhood Trauma Questionnaire (Bernstein et al., 1997; see text).
* $p < .05$; ** $p < .01$.

TABLE 3
Risk of Maladaptive Outcomes for Maltreated Adolescents, by Gender (N = 1,419)

Outcomes	Full Sample Base Rate *n* (%)	Maltreatment Classification[a] Nonmaltreated *n* (%)	Maltreated *n* (%)	OR (95% CI)
Female adolescents (n = 812)				
Emotional distress (TSCC)				
Anger	29 (3.6)	8 (1.5)	20 (7.1)	7.1 (2.5, 20.4)*
Depression	73 (9.1)	18 (3.5)	54 (19.3)	7.2 (3.6, 14.6)*
Anxiety	72 (9.0)	19 (3.6)	52 (18.6)	9.3 (4.6, 19.0)*
Posttraumatic stress	51 (6.3)	11 (2.1)	39 (13.9)	9.8 (3.9, 24.1)*
Dissociation	92 (11.4)	34 (6.5)	57 (20.4)	3.4 (1.9, 6.2)*
Overt dissociation	71 (8.8)	23 (4.4)	47 (16.8)	3.5 (1.8, 6.9)*
Fantasy	92 (11.4)	40 (7.7)	51 (18.2)	3.3 (1.9, 5.8)*
Sexual concerns	218 (27.1)	105 (20.2)	112 (40.0)	3.2 (2.1, 4.9)*
Sexual preoccupation	246 (30.6)	122 (23.4)	123 (43.9)	2.4 (1.6, 3.6)*
Sexual distress	166 (20.6)	80 (15.4)	85 (30.4)	2.9 (1.8, 4.7)*
Delinquency (SRD)				
Nonviolent delinquency	215 (27.0)	107 (20.6)	108 (39.3)	2.7 (1.7, 4.1)*
Violent delinquency	129 (16.2)	56 (10.8)	72 (26.1)	4.5 (1.4, 4.2)*
Carried a weapon	37 (4.6)	12 (2.3)	25 (9.1)	7.1 (2.6, 19.5)*
Abuse perpetration (CADRI)				
Sexual abuse	148 (23.4)	79 (20.3)	69 (28.5)	1.6 (0.9, 2.6)
Threatening behavior	130 (20.4)	61 (15.6)	69 (28.5)	2.5 (1.4, 4.34)
Physical abuse	177 (28.2)	89 (23.0)	88 (36.7)	1.6 (1.0, 2.6)
Abuse victimization (CADRI)				
Sexual abuse	274 (43.2)	146 (37.5)	128 (52.9)	1.8 (1.1, 2.7)*
Threatening behavior	137 (21.6)	62 (16.0)	75 (31.0)	2.8 (1.6, 4.7)*
Physical abuse	120 (19.0)	59 (15.2)	60 (25.0)	1.8 (1.1, 3.1)
Male adolescents (n = 607)				
Emotional distress (TSCC)				
Anger	16 (2.9)	5 (1.2)	11 (6.2)	3.3 (0.9, 12.4)
Depression	68 (11.6)	31 (7.6)	37 (20.8)	2.6 (1.3, 5.1)*
Anxiety	46 (7.9)	25 (6.1)	21 (11.8)	1.4 (0.6, 3.4)
Posttraumatic stress	50 (8.6)	23 (5.6)	27 (15.2)	3.4 (1.6, 7.1)*
Dissociation	71 (12.1)	35 (8.6)	36 (20.2)	2.0 (1.0, 3.8)
Overt dissociation	67 (11.4)	31 (7.6)	36 (20.2)	2.5 (1.2, 4.9)*
Fantasy	89 (15.0)	52 (12.7)	37 (20.8)	1.3 (0.7, 2.3)
Sexual concerns	141 (24.1)	86 (21.0)	55 (30.9)	1.4 (0.8, 2.6)
Sexual preoccupation	140 (23.9)	88 (21.5)	52 (29.2)	1.2 (0.7, 2.1)
Sexual distress	97 (16.7)	55 (13.5)	42 (23.6)	1.3 (0.8, 2.2)
Delinquency (SRD)				
Nonviolent delinquency	276 (48.3)	185 (46.5)	91 (52.3)	1.0 (0.7, 1.7)
Violent delinquency	189 (33.3)	115 (28.9)	74 (43.0)	1.8 (1.1, 3.0)
Carried a weapon	97 (17.1)	56 (14.2)	41 (23.7)	1.4 (0.8, 2.5)
Abuse perpetration (CADRI)				
Sexual abuse	183 (36.6)	117 (34.0)	66 (44.3)	1.9 (1.1, 3.2)
Threatening behavior	81 (16.6)	39 (11.3)	42 (28.2)	2.8 (1.5, 5.4)*
Physical abuse	52 (10.6)	25 (7.2)	27 (18.8)	3.4 (1.5, 7.6)*
Abuse victimization (CADRI)				
Sexual abuse	175 (35.9)	104 (30.3)	71 (48.6)	2.1 (1.2, 3.5)*
Threatening behavior	117 (24.0)	57 (16.6)	60 (40.0)	3.3 (1.8, 5.8)*
Physical abuse	137 (27.8)	77 (22.4)	60 (40.3)	2.6 (1.5, 4.5)*

Note: All adolescents with eligible responses for each subscale were included in analyses; thus the number of adolescents with available data for each subscale varied slightly. OR = odds ratio; CI = confidence interval; TSCC = Trauma Symptom Checklist for Children; SRD = Self-Report Delinquent Scale (see text for items comprising nonviolent and violent delinquency); CADRI = Conflict in Adolescent Dating Relationships Inventory.

[a] Child maltreatment was based on moderate or severe cutoff scores from the Childhood Trauma Questionnaire.

* $p < .01$.

reflect the extent to which such behaviors are common among this age group. Both violent and nonviolent delinquent behaviors were commonly reported (violent: 16% and 33%; nonviolent: 27% and 48% for females and males, respectively), as were acts of dating violence (e.g., 36.6% of males reported using sexually abusive tactics and 28.2% of girls reported using physically abusive tactics toward a dating partner).

After we controlled for the significant demographic variables shown in Table 2, logistic regression indicated that youths with maltreatment histories were significantly more likely to report clinical-level adjustment problems in adolescence than were those without such histories.

For girls, pseudo-omnibus tests were significant ($p < .01$) for all outcome domains (trauma symptoms: $\chi^2_{120} = 336.66$; delinquency: $\chi^2_{36} = 84.39$; abuse perpetration: $\chi^2_{48} = 89.72$; abuse victimization: $\chi^2_{48} = 97.50$). Examination of domain-specific measures revealed that maltreated girls show elevated risk for difficulties across a wide range of outcomes (Table 3, top). They are at increased risk of experiencing all emotional symptoms, with the most striking results being classic signs of trauma. Female adolescents with a history of maltreatment were more than 7 times as likely to have clinically significant difficulties with anger and depression and more than 9 times as likely to experience clinically significant levels of anxiety and posttraumatic stress as were those without a maltreatment history. Also, girls with a history of maltreatment were almost 3 times as likely to be involved in nonviolent delinquency (e.g., vandalism), 4.5 times as likely to be involved in violent delinquent acts (e.g., assault), and 7 times as likely to report carrying a concealed weapon in the last year. Finally, female youths with a history of maltreatment were almost twice as likely to report being victims of sexual abuse by a dating partner and about 3 times as likely to report threatening behavior. They were also more likely to perpetrate abuse, although this finding did not reach statistical significance at the $p < .01$ level.

Male adolescents who reported a history of maltreatment also showed increased problems over all domains of functioning (pseudo-omnibus tests for trauma symptoms: $\chi^2_{120} = 136.61$; delinquency: $\chi^2_{36} = 57.86$; abuse perpetration: $\chi^2_{48} = 75.52$; abuse victimization: $\chi^2_{48} = 109.06$; all p values $< .01$). However, examination of domain-specific measures indicated that male youths did not show the same wide range of maladaptive outcomes as female youths (Table 3, bottom). Boys with a history of maltreatment were 2.5 to 3.5 times as likely to report clinical levels of depression, posttraumatic stress, and overt dissociation as boys without a maltreatment history. Contrary to predictions, they did not report significantly elevated levels of delinquency. However, boys with a history of maltreatment were significantly more likely to report both abuse perpetration and victimization. They were almost 3.5 times as likely to report using physical abuse against their partners and 2.8 times as likely to report engaging in threatening behavior. Although not statistically significant, they were also almost twice as likely to report being sexually abusive. Male adolescents with a history of maltreatment were also approximately 3 times as likely to report having a partner who has used threats, 2.5 times as likely to report being physically abused, and twice as likely to report being sexually abused.

DISCUSSION

This study examined the connection between child maltreatment experiences and clinically significant mental health problems in adolescence. One third of the sample was considered to have experienced maltreatment on the basis of aggregated reports of physical, sexual, or emotional abuse, a finding that is disturbing but not unexpected. Prevalence rates based on adult surveys reveal, for example, that physical abuse in childhood is reported by one third of men and one fifth of women (MacMillan et al., 1997), and prevalence studies of sexual abuse cluster around 20% for women and between 3% and 11% for men (Finkelhor, 1994).

We examined clinically relevant problems among maltreated and nonmaltreated youths across three domains of adolescent adjustment: emotional distress, delinquent behavior, and dating violence perpetration and victimization. Youths with maltreatment histories reported significant adjustment problems in adolescence that differed by gender. Female adolescents with histories of maltreatment reported considerable emotional distress (such as anger, depression, and anxiety), posttraumatic stress–related symptoms, and acts of violent and nonviolent delinquency. Male adolescents with maltreatment histories reported fewer symptoms of emotional turmoil and delinquent behavior but were significantly more likely to be abusive toward their dating partners.

These gender differences merit careful discussion. Whereas the elevated levels of distress reported by adolescent girls are consistent with the literature on maltreatment (Kaplan et al., 1999), their higher reports of

delinquent behavior were unexpected. The influence of maltreatment experiences on delinquent behavior among female adolescents has received less study than that among male adolescents; moreover, females—regardless of maltreatment history—reported engaging in less delinquent behavior than did males, as evidenced by the base rates for the sample. This latter finding is a reminder that such behavior is still more common among boys, but it remains troubling that maltreatment histories increase the risk of delinquent behavior, especially for girls.

A second important gender difference emerged in the findings of dating violence. In this case, histories of maltreatment were pronounced risk factors for male adolescents becoming perpetrators (as well as victims) of physical violence and threats and female adolescents becoming recipients of such violence. Although the gender-specific pattern of risk for dating violence was consistent with our expectations, there were high base rates of abuse perpetration among both male and female adolescents. It is distressing that, like delinquent behavior, the relative frequency of such behavior among boys argues for its being the norm rather than the exception. It is also worthwhile to note that girls in this sample reported as much or more abuse perpetration as did boys, a finding that is consistent with surveys of married and unmarried couples in Canada, the United States, and Britain (Carrado et al., 1996; Grandin and Lupri, 1997; Magdol et al., 1997; Straus and Gelles, 1986). Similar results have been found in small-scale studies of adolescents (Archer and Ray, 1989; Bergman, 1992; Wolfe et al., 1998).

Clinical Implications

The prevalence of clinically relevant symptoms among adolescents with unreported maltreatment backgrounds highlights the need for proper identification and services for children and youths with histories of maltreatment. Maltreatment contributes to adolescent dating violence (especially in young men) as well as symptoms of emotional distress and delinquent behavior (especially in young women), which are common referrals among school-age populations. Thus, attention to possible backgrounds of child maltreatment may benefit clinical diagnosis and treatment, as well as school- and community-based prevention efforts aimed at addressing relationship-based disorders in adolescence. In clinical settings, however, it would be important to include additional sources of information on dating violence (such as dating partner or peer report) and emotional distress (such as parental or teacher report) to confirm the findings reported herein.

Moreover, the findings suggest the importance of clarifying the nature of dating violence during adolescence, as well as the differential impact of dating violence on male and female victims. In *adult* relationships, there is considerable evidence that men drive the abusive system; injury rates in abusive relationships are consistently higher among women, and women are much more likely to be afraid of their partners' anger (Jacobson et al., 1994). Studies of high school populations similarly find that girls experience physical abuse by dating partners as "scary," whereas boys consider such behavior by dating partners to be a "laugh" (Jackson et al., 2000). Subsequent focus groups with a subset of adolescent participants in this study verified that physically abusive acts have a more frightening and hurtful impact on girls than on boys. Although abusive behavior toward dating partners in adolescence may not yet fully reflect adult-like patterns of violence (Cascardi et al., 1999), the transition from adolescent dating violence to adult abusive behavior warrants further investigation.

Limitations

The study relied on adolescent self-report of current adjustment and retrospective self-report of maltreatment, largely because of the private and sensitive nature of the information. Although retrospective reports of childhood maltreatment are subject to distortion, current evidence suggests they generally provide valid and reliable estimates of significant past events (Bernstein et al., 1994). Self-reports of maltreatment by CPS-identified and community-sample high school adolescents in the present study were comparable across measures of maltreatment history and clinical functioning, lending support to their validity. Furthermore, more than one third of the possible sample of adolescents chose not to participate in the study, and urban locations were underrepresented. Despite the fact that lower socioeconomic status was not associated with participation, it is possible that the data were skewed by the lack of participation of remaining students.

Clinically relevant outcomes were determined on the basis of three dimensions of adjustment—emotional distress, delinquency, and dating violence—rather than diagnostic criteria. This approach was used for two reasons. First, it was not feasible to conduct diagnostic interviews with participants. Second, these dimensions pertain to developmental problems rather than mental disorders. By

using clinical cutoff criteria with established measures, we were able to achieve our aim of contrasting problem and nonproblem outcomes. Finally, this study involved a community sample of adolescents that was representative of southwestern Ontario. The sample included somewhat higher Aboriginal and Asian representation than is typical of U.S.-based studies, and therefore the findings may not generalize to other regions, especially those with larger African-American and Hispanic populations.

REFERENCES

Archer J, Ray N (1989), Dating violence in the United Kingdom: a preliminary study. *Aggressive Behav* 15:337–343

Avery-Leaf S, Cascardi M, O'Leary KD, Cano A (1997), Efficacy of a dating violence prevention program on attitudes justifying aggression. *J Adolesc Health* 21:11–17

Bergman L (1992), Dating violence among high school students. *Soc Work* 37:21–27

Bernstein DP, Ahluvalia T, Pogge D, Handelsman L (1997), Validity of the Childhood Trauma Questionnaire in an adolescent psychiatric population. *J Am Acad Child Adolesc Psychiatry* 36:340–348

Bernstein DP, Fink L, Handelsman L et al. (1994), Initial reliability and validity of a new retrospective measure of child abuse and neglect. *Am J Psychiatry* 151:1132–1136

Biederman J, Faraone SV, Mick E et al. (1999), Clinical correlates of ADHD in females: findings from a large group of girls ascertained from pediatric and psychiatric referral sources. *J Am Acad Child Adolesc Psychiatry* 38:966–975

Briere J (1996), *Trauma Symptom Checklist for Children: Professional Manual*. Odessa, FL: Psychological Assessment Resources

Brown J, Cohen P, Johnson JG, Smailes EM (1999), Childhood abuse and neglect: specificity of effects on adolescent and young adult depression and suicidality. *J Am Acad Child Adolesc Psychiatry* 38:1490–1496

Capaldi DM, Crosby L (1997), Observed and reported psychological and physical aggression in young, at-risk couples. *Soc Dev* 6:184–206

Carrado MC, George MJ, Loxam E, Jones L, Templar D (1996), Aggression in British heterosexual relationships: a descriptive analysis. *Aggressive Behav* 22:401–415

Cascardi M, Avery-Leaf S, O'Leary KD, Smith Slep A (1999), Factor structure and convergent validity of the Conflict Tactics Scale in high school students. *Psychol Assess* 11:546–555

Dishion TJ, Andrews DW, Crosby L (1995), Antisocial boys and their friends in early adolescence: relationship characteristics, quality, and interactional process. *Child Dev* 66:139–151

Feldman CM (1997), Childhood precursors of adult interpersonal violence. *Clin Psychol Sci Pract* 4:307–334

Finkelhor D (1994), The international epidemiology of child sexual abuse. *Child Abuse Negl* 18:409–417

Flisher AJ, Kramer RA, Hoven CW et al. (1997), Psychosocial characteristics of physically abused children and adolescents. *J Am Acad Child Adolesc Psychiatry* 36:123–131

Foshee VA, Linder GF, Bauman KE et al. (1996), The Safe Dates Project: theoretical basis, evaluation design, and selected baseline findings. *Am J Prev Med* 12:39–47

Grandin E, Lupri E (1997), Intimate violence in Canada and the United States: a cross-national comparison. *J Fam Violence* 12:417–443

Hazan C, Shaver P (1994), Attachment as an organizational framework for research on close relationships. *Psychol Inq* 5:1–22

Huizinga D, Elliott D (1986), Reassessing the reliability and validity of self-report delinquency measures. *J Quant Criminol* 2:293–327

Jackson SM, Cram F, Seymour, FW (2000), Violence and sexual coercion in high school students' dating relationships. *J Fam Violence* 15:23–36

Jacobson NS, Gottman JM, Waltz J, Rushe R, Babcock J, Holtzworth-Munroe A (1994), Affect, verbal content, and psychophysiology in the arguments of couples with a violent husband. *J Consult Clin Psychol* 62:982–988

Kaplan SJ, Pelcovitz D, Labruna V (1999), Child and adolescent abuse and neglect research: a review of the past 10 years, Part I: physical and emotional abuse and neglect. *J Am Acad Child Adolesc Psychiatry* 38:1214–1222

MacMillan HL, Boyle MH, Wong MY, Duku EK, Fleming JE (1999), Slapping and spanking in childhood and its association with lifetime prevalence of psychiatric disorders in a general population sample. *CMAJ* 161:821–822

MacMillan HL, Fleming JE, Trocme N et al. (1997), Prevalence of child physical and sexual abuse in the community: results from the Ontario Health Supplement. *JAMA* 278:131–135

Magdol L, Moffitt TE, Caspi A, Newman DL, Fagan J, Silva PA (1997), Gender differences in partner violence in a birth cohort of 21-year-olds: bridging the gap between clinical and epidemiological approaches. *J Consult Clin Psychol* 65:68–78

McCloskey LA, Walker M (2000), Posttraumatic stress in children exposed to family violence and single-event trauma. *J Am Acad Child Adolesc Psychiatry* 39:108–115

Reitzel-Jaffe D, Wolfe DA (2001), Predictors of relationship abuse among young men. *J Interpersonal Violence* 16:99–115

Rogosch FA, Cicchetti D, Aber JL (1995), The role of child maltreatment in early deviations in cognitive and affective processing abilities and later peer relationship problems. *Dev Psychopathol* 7:591–609

Shields AM, Cicchetti D, Ryan RM (1994), The development of emotional and behavioral self-regulation and social competence among maltreated school-aged children. *Dev Psychopathol* 6:57–75

Straus MA, Gelles RJ (1986), Societal change and change in family violence from 1975 to 1985 as revealed by two national surveys. *J Marriage Fam* 48:465–479

Straus MA, Kantor GK (1994), Corporal punishment of adolescents by parents: a risk factor in the epidemiology of depression, suicide, alcohol abuse, child abuse, and wife beating. *Adolescence* 29:543–561

Toth S, Manly JT, Cicchetti D (1992), Child maltreatment and vulnerability to depression. *Dev Psychopathol* 4:97–112

Widom C (1998), Childhood victimization: early adversity and subsequent psychopathology. In: *Adversity, Stress, and Psychopathology,* Dohrenwend BP, ed. New York: Oxford University Press, pp 81–95

Widom CS (1989), Does violence beget violence? A critical examination of the literature. *Psychol Bull* 106:3–28

Wolfe DA, McGee R (1994), Dimensions of child maltreatment and their relationship to adolescent adjustment. *Dev Psychopathol* 6:165–181

Wolfe DA, Scott K, Reitzel-Jaffe D, Wekerle C, Grasley C, Pittman AL (in press), Development and validation of the Conflict in Adolescent Dating Relationships Inventory. *Psychol Assess*

Wolfe DA, Wekerle C, Reitzel-Jaffe D, Lefebvre L (1998), Factors associated with abusive relationships among maltreated and non-maltreated youth. *Dev Psychopathol* 10:61–85