

An Examination of the Association Between Histories of Maltreatment and Adolescent Risk Behaviours

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Overview

The present study examined the association between five forms of maltreatment (physical abuse, sexual abuse, neglect, exposure to wife abuse, emotional abuse) and adolescent risk behaviours. It was predicted that adolescents with self-reported histories of maltreatment would be more likely to engage in risk behaviours than those not reporting such histories. A total of 142 high school students enrolled in a stay-at-school project and in regular classrooms participated in the study. The adolescents completed questionnaires concerning their histories of maltreatment, their current levels of behavioural and social adjustment, their involvement in risk behaviour, and information about their family's background and environment. Sixty-one percent of the adolescents participating in the study reported some history of maltreatment. Of the adolescents who reported histories of maltreatment, two-thirds reported experiencing multiple forms of maltreatment. Significant associations between reported maltreatment and engagement in risk behaviours were found. In particular, maltreatment was associated with increased likelihood of running away from home, as well as the use of cigarettes, alcohol and drugs. Moreover, histories of maltreatment were associated with deficits in behavioural adjustment and increased reporting of suicidal ideation. These associations were stronger for adolescents with histories of multiple victimization than for those exposed to single forms of maltreatment. Finally, adolescents with histories of maltreatment were more likely to report histories of mental illness, substance abuse, and criminal offences.

Review of Background Literature

Forms of Maltreatment

Child maltreatment is a global term encompassing a variety of behaviours varying in type, intensity and duration. Five forms of maltreatment were considered in the present study, and are briefly described below.

Physical Abuse

A 1985 American national survey of family violence, conducted by Straus and Gelles (1988), used two definitions of physical child abuse. The first definition considered children to be physically abused if they had been kicked, bitten, punched, beaten, burned or scalded, threatened with a knife or gun, or attacked with a knife or gun. Using these criteria, the researchers found an abuse rate of 24 per 1000 children. When they added the category of hitting a child with an object to their second definition of physical child abuse, the abuse rate rose to 110 per 1000 children. Using a large community sample of adolescents in a midwestern city in the United States, Hibbard, Ingersoll and Orr (1990) found a self-reported rate of 9 percent for physical abuse occurring in isolation of other abuse and of 14.2 percent for physical abuse co-occurring with other maltreatment (i.e., sexual abuse).

Neglect

Emotional and physical neglect are considered acts of omission. Neglect has been defined by Dean (1979 – cited in Briere, 1992) as an “act of omission, frequently the result of parental ignorance or indifference. As a result, the child is not given positive emotional support and stimulation. Parents may give adequate physical care to their child but leave him or her alone in a crib for long periods of time, seldom cuddle or talk to the child, or fail to give him or her

encouragement and recognition" (p. 19). Similarly, Kaufman and Cicchetti (1989) described children as neglected if their supervision, nutrition and/or medical needs were not met. The prevalence of child neglect is difficult to determine, as it is often included as part of physical abuse or as part of psychological maltreatment.

Exposure to Wife Abuse

Wife abuse has been defined as any "act of aggression by a man against a woman with whom he is in an intimate relationship" (Dutton, 1988, p. 1). The aggression against the woman can be verbal and/or physical. The most frequently used device to measure wife abuse is the Conflict Tactics Scale developed by Straus and his colleagues (Straus, 1979). Using this measure in a 1985 survey study in the United States, Straus and Gelles (1988) found 11.3 percent of participants reported the use of physical violence against their wives. Virtually identical results were obtained when a Canadian sample was used. Kennedy and Dutton (1989) obtained a representative sample of rural and urban participants in the province of Alberta. Using the same measure as Straus, the self-reported incidence of wife assault in Canada was 11.2 percent.

According to Statistics Canada's national survey on Violence Against Women, three in ten women currently or previously married in Canada have experienced at least one incident of physical or sexual violence at the hands of a marital partner (Rodgers, 1994, p. 1).

Although the studies described above have focused on the level of violence between adults, attention also has been given to the amount of wife assault witnessed by the children in these families. For example, Bard (1970) found that children were present in 41 percent of the "domestic disturbances" that led to a police intervention. Similarly, Leighton (1989) examined 2910 cases of wife assault and found that children were present in 68 percent of the cases. The results of Statistics Canada's national survey on Violence Against Women indicate that children witnessed violence against their mothers in almost 40% of marriages with violence (Rodgers, 1994, p. 1).

Emotional Abuse

Emotional abuse is typically conceptualized as acts of commission. Examples of emotionally abusive behaviours could include acts of rejecting, terrorizing, isolating, exploiting, degrading, corrupting and denying emotional responsiveness (Claussen & Crittenden, 1991).

Sexual Abuse

Sexual abuse generally refers to the sexual exploitation of children and can include such behaviours as sexual assault, sexual touching, invitation to touching, acts of exposure, or exploitation such as prostitution or pornography. In their community study of American adolescents, Hibbard *et al.* (1990) found a self-reported rate of 4.3 percent for sexual abuse occurring in isolation of other abuse and of 9.5 percent for sexual abuse co-occurring with other maltreatment (i.e., physical abuse). Among these adolescents, there was a significant difference in the rates of self-reported sexual abuse across genders, with more females than males reporting histories of sexual abuse.

Impact of Maltreatment

Childhood maltreatment is not thought to cause a blanket impairment in children's development, but rather impairments in specific domains at particular stages of development. Maltreatment has been associated with a wide range of adjustment difficulties. For example, compared to non-maltreated children, maltreated children have been described as having more aggressive interactions with their parents and/or peers than children from nonviolent backgrounds (Cummings, Pellegrini, Notarius & Cummings, 1986). Maltreated children also have been described as having increased internalizing (e.g., withdrawn, depressive) symptomatology (Jaffe, Wolfe & Wilson, 1990; Reid & Crisafulli, 1990). Maltreated children also have been reported by their teachers as being more aggressive and requiring more discipline than non-abused children (Reidy, 1977; Hoffman-Plotkin & Twentyman, 1984).

Maltreatment and Delinquency

Of most concern to the present study is the association between childhood maltreatment and delinquent/at risk behaviours of adolescents. Converging evidence suggests that maltreatment in childhood is associated with adolescent delinquent behaviour. For example, Smith and Thornberry (1993) suggest that, in general, a history of childhood maltreatment puts adolescents at higher risk of committing delinquent acts. This relationship was consistent, whether the information on delinquent acts was obtained through self-report or derived from official documented reports. Further, the relationship between maltreatment and delinquency was stronger for the more serious types of delinquency than for the minor forms of delinquency. They suggest that approximately 15 to 30 percent of maltreated children go on to become delinquent. Similarly, in a prospective study, Widom (1989) matched maltreated and non-maltreated samples on age, sex, race and social class, and compared their later involvement in criminal and delinquent behaviour. She found that 29 percent of adults with childhood histories of abuse and neglect had a criminal record for non-traffic offences, compared with 21 percent of adults without maltreatment histories. On average, abused and neglected children were found to begin offending earlier and had a greater number of offences.

The nature of the delinquent offences are also thought to be affected by childhood histories of maltreatment. For example, Howing *et al.* (1990) suggests that adolescents with maltreatment histories are more likely to commit more violent crimes, such as assault, than adolescents who were not maltreated.

Family Functioning

Maltreating families are often characterized by other forms of dysfunction. Factors associated with maltreatment and other aspects of family functioning both need to be considered in their relationship to adolescent risk behaviours. For example, Dembo *et al.* (1992) suggest that families which provide emotional/psychological support to their children supply conventional role models for them, exert social control over their children's behaviour and, where strong bonds of attachment exist between youngsters and their parents, tend to have lower rates of delinquency.

Attachment theory suggests that children who have formed a secure attachment to a parent develop a "working model" of the parent as responsive and accessible, and of themselves as worthy of love (Bowlby, 1973; Bretherton, 1987). This theory predicts that maltreated children would have more difficulties than non-maltreated children in forming secure attachments to primary caregivers and in developing positive working models of the self (e.g., Egeland & Sroufe, 1981; Schneider-Rosen, Braunwald, Carlson & Cicchetti, 1985). Children with insecure attachments would be less able to form relationships with peers or other adults (Cicchetti & Olsen, 1990). Poor attachment implies a failure to identify with parental and societal values regarding conformity and work, leaving the child lacking in internal control (Patterson, DeBaryshe & Ramsey, 1989).

Parental modelling of conflict resolution represents another important influence on children as they may imitate similar methods when confronted with their own conflict situations (Hart, Ladd & Burleson, 1990). If children are exposed to high levels of aggressive behaviour in the home, they will have more opportunity to observe and imitate aggressive behaviour (Wahler & Dumas, 1986). Exposure to aggressive behaviour makes aggressive responses salient in a child's repertoire and leads a child to evaluate aggressive responses as efficacious in leading to positive outcomes (Dodge, Bates & Pettit, 1990).

Measurement of Maltreatment

A particular difficulty in conducting research on childhood maltreatment involves defining and obtaining valid information about the different forms of maltreatment — maltreatment which may occur over a period of time and may take many different forms (Jaffe, Wolfe & Wilson, 1990; Mash & Wolfe, 1991). Measurement error may result from all sources of information due to reactive effects, response biases and distortions, random responding and social desirability (Mash & Wolfe, 1991). Despite these difficulties, Smith and Thornberry (1993) found that measuring maltreatment by an ever-prevalent measure was generally equivalent to measures that tapped the frequency, severity, duration and number of different types of abuse. Further, their findings suggested a threshold effect in that *any* level of abuse severe enough to come to the attention of a

child protection agency puts the child at risk of later delinquency. Once the threshold was crossed, further incidents of abuse, or even more severe incidents of abuse, did not substantially increase the risk for delinquency.

Previous maltreatment research often has not differentiated between types of maltreatment, despite the evidence that different types of maltreatment have been associated with different sequelae (e.g., Claussen & Crittenden, 1991). For example, it has been suggested that physically abused children are more likely to engage in violent offences, while neglected children may be more likely to engage in property offences (Brown, 1984; Kaufman & Cicchetti, 1989).

Multiple Victimization

It is known that children may be victims of more than one form of maltreatment. For example, the overlap between wife assault and physical child abuse has been estimated at 30 to 40 percent (Hughes, 1988; Straus, Gelles & Steinmetz, 1980). Little research has directly examined the impact of multiple victimization on adolescent at-risk behaviour. It is expected that exposure to more than one form of maltreatment increases the likelihood of engaging in at-risk behaviour.

Summary and Research Questions

Childhood maltreatment has been shown to have an association with delinquency in adolescence. However, the specific impact according to form of maltreatment or impact of multiple victimization is less clear. In addition to factors associated with maltreatment, other factors related to family functioning are suggested to be associated with adolescent adjustment.

In light of the above considerations, the present study sought to examine the following questions:

1. The impact of maltreatment on individual adolescent functioning was examined. It was predicted that adolescents with histories of maltreatment would show increased levels of internalizing and externalizing behaviour problems, and also would show deficits in their social competence.

2. The association between histories of maltreatment and the involvement in risk behaviours in adolescents was examined. It was expected that maltreated adolescents would engage in more risk behaviours than non-maltreated adolescents.

3. The association between specific forms of maltreatment (e.g., physical abuse) with specific forms of risk behaviours (e.g., drug use) was examined. Given the paucity of research to date in this area, no specific predictions were made as to the relationship between these variables.

4. The impact of multiple victimization on the engagement in risk behaviours was examined. It is predicted that adolescents who had been exposed to more than one form of maltreatment would engage in more risk behaviours than those with no maltreatment histories or those exposed to one form of maltreatment.

5. Maltreatment was expected to be associated with family functioning factors. It was expected that, when compared to non-maltreating families, maltreating families would be characterized by less healthy methods of functioning (e.g., higher levels of conflict, lower levels of organization). In addition, more maltreating families were expected to have family histories of mental illness, substance abuse, maltreatment and criminal offences.

Method

Research Participants

A total of 142 male ($n = 64$) and female ($n = 78$) adolescents participated in the study. The youth ranged in age from 14 to 18, with an overall mean age of 15.3 years ($SD = .48$). Two groups of adolescents were included. The first group ($n = 49$) was comprised of adolescents participating in the New Beginnings for Youth (NBFY) program. This program, operating in Ottawa and Cornwall, works with adolescents who have been identified as being at risk for school drop-out. Adolescents are referred to the New Beginnings program from a variety of sources, including school guidance counsellors, teachers and mental health professionals. The New Beginnings Program starts working with referred youth in the summer by involving them in planning and completing a sailing expedition. In the fall the youth are involved in weekly group sessions focusing on education and support.

The second group of adolescents involved in the research project included 93 adolescents from one Cornwall high school; these students were considered representative of the general adolescent population. No significant differences on the adolescents' age, grade, sex or mothers' socio-economic status (as measured by the Blishen Scales, 1987) were found between these two groups. However, the fathers' socio-economic status (as measured by the Blishen Scales, 1987) was significantly higher for the High School sample ($M = 48.75$, $SD = 20.50$) than for the NBFY sample ($M = 41.15$, $SD = 12.18$, $t(95) = -2.67$, $p < .01$). Family constellation also differed for the two groups, with the NBFY sample more likely to come from single parent families (28.6 percent) than the High School sample (8.6 percent), and less likely to come from two-parent families (65.3 percent versus 87.1 percent, respectively; $\chi^2(1, n=142) = 10.39$, $p < .01$). Despite these

differences, the two groups were considered in general to be demographically comparable, and as such were collapsed into one larger group for the purposes of data analyses.

Procedure

Informed consent was obtained from all adolescents prior to completion of the questionnaires. For the adolescents in the New Beginnings for Youth program, assurance was given that refusal to participate in the research project would in no way affect their involvement with the program. Of all the adolescents in the NBFY program, only two refused to participate, both due to difficulties in reading ability. Adolescents completed all questionnaires in one session, 1 to 1½ hours in duration. Responses to the questionnaires were individually screened for the presence of reportable maltreatment and for suicidal risk.

Measures

Measures were chosen to assess an array of maltreatment experiences, adolescent risk behaviours, and aspects of adolescent psychosocial functioning. All measures relied on adolescent self-report. The combination of measures provided a broad, and not an exhaustive, sampling of each of these areas. The assessment battery described here is not equivalent to an in-depth assessment of any one of the areas under investigation.

Maltreatment Histories

Information on maltreatment histories was derived from self-reports on the Ratings of Past Life Events (Part A) (McGee, 1993). Adolescents indicated on a four-point scale whether they had experienced each form of maltreatment "not at all" to "severely" by their mother, father or another person. For the purposes of this report, adolescents were considered to have experienced maltreatment if they indicated "mildly" to "severely" on any form of maltreatment by any individual. Maltreatment experience was dichotomized in a similar fashion for each separate form of maltreatment.

Social Competence and Behaviour Problems

The self-reporting of adolescent social competence and level of behavioural difficulties were obtained from the Youth Self-Report (Achenbach, 1991). This measure asks adolescents to rate their level of social competence (e.g., social performance, activities) and behaviour problems (e.g., aggression, depression). Responses to this questionnaire are scored by computer, and results are compared to a normative sample of youth of the same age and sex. In the present study, T-scores are reported for the second-order factors of social competence, internalizing behaviour problems (e.g., anxiety, depression), and externalizing behaviour problems (e.g. acting out, aggression). In addition, two individual items from the questionnaire were included (I run away from home, I think about killing myself) as a self-report of different risk behaviours.

Self-Esteem

The degree to which adolescents had a healthy image of themselves was measured by a modified version of the Self-Description Questionnaire II (Marsh, 1990). In this questionnaire, respondents were asked to rate, on a six-point scale, how accurately the sentences given described themselves. To conserve time, not all subscales of the original measures were administered. Measures of self-esteem were assessed in the following areas: physical appearance, general self, honesty-trustworthiness, and parent relations.

Family History and Risk Behaviours

Adolescents provided background information about family history, school history, and involvement in risk behaviours on the Student Questionnaire. This questionnaire was developed by the researchers, and included some questions from the High School Student Questionnaire (Caputo, 1993) and from the Canadian Youth Mental Health and Illness Survey (Davidson & Manion, 1993). Information about the family's history included questions on family constellation and socio-economic status, as well as history of depression, use of alcohol or drugs, physical or sexual maltreatment, mental illness, criminal activity and school attendance. Adolescents reported their own school attendance, school history and future educational goals. Finally, information about involvement in risk behaviours such as truancy, running away from home,

criminal charges and substance use was included. A copy of this questionnaire is available from the authors upon request.

Family Environment

A modified version of the Family Environment Scale (Moos & Moos, 1986) was administered to assess the relationship, personal growth and system maintenance dimensions within the family system. To conserve time, not all subscales of the original measure were used. The specific subscales included in the present study were: cohesion (the degree of commitment, help and support that family members provide for one another), expressiveness (the extent to which family members are encouraged to act openly and to express their feelings directly), conflict (the amount of openly expressed anger, aggression and conflict among family members), independence (the extent to which family members are assertive, are self-sufficient, and make their own decisions), achievement orientation (the extent to which activities, such as school and work, are cast into an achievement-oriented or competitive framework), organization (the degree of importance of clear organization and structure in planning activities and responsibilities), and control (the extent to which set rules and procedures are used to run family life).

Other Life Events

To control for the potential impact of negative events other than maltreatment, the Life Events Checklist (Johnson & McCutcheon, 1980) was completed. For this questionnaire, adolescents were asked to indicate which events had occurred in their lives in the previous year, to indicate whether the event was positive or negative for them, and to rate on a three-point scale the impact or effect that the event had on their lives (i.e., 0 = no effect, 1 = little effect, 2 = big effect). From this checklist, a negative life change score was derived by summing the impact ratings of those events rated as negative. The Negative Life Events score was selected due to the high degree of test-retest reliability of negative life events found by researchers using similar measures (e.g., Johnson & Sarason, 1979). In addition, ratings of negative life events have been shown to be highly predictive of children's level of anxiety, academic achievement and maladjustment (Johnson & Sarason, 1979).

Results

Maltreatment Experiences

There was not a statistically significant difference in the proportion of adolescents in each sample of participants who self-reported some form of maltreatment (69.4% in the NBFY sample vs. 57.0% in the High School sample). Of the total combined sample of 142 adolescents, 87 (61.3%) claimed to have experienced one or more types of maltreatment at some time in their past. One-third of those claiming maltreatment histories reported a single form of maltreatment, while two-thirds reported multiple (two or more) forms of maltreatment (see Figure 1).

The frequencies of self-reported maltreatment experiences ranged from 14.8% for witnessing spousal violence, 15.5% for sexual abuse, 20.4% for neglect and 38.7% for physical abuse to 40.8% for emotional abuse (see Figure 2). These frequencies represent the incidence of each form of self-reported maltreatment, whether they occurred in isolation or in combination with other forms of maltreatment. The above-listed frequencies total greater than 100% given that the majority of adolescents reported experiencing more than one form of maltreatment.

Overall, the proportion of males reporting a history of some form of maltreatment was not significantly different from that of females. When the self-reported incidence of specific forms of maltreatment were compared across genders, females reported significantly more sexual abuse (28.2% vs. 0%), $\chi^2(1, n=142)=19.26, p<.001$, and emotional abuse (48.7% vs. 31.3%), $\chi^2(1, n=142)=4.44, p<.05$, than did males. The incidence rates of the various forms of maltreatment experience by gender are presented in Figure 3.

For the balance of the analyses, adolescents with a self-reported history of maltreatment (maltreatment group) were compared with adolescents who did not report such histories (no-maltreatment group).

Demographic Information

Adolescents with self-reported histories of maltreatment did not differ significantly from those not reporting such histories in their age, proportion of males to females, or in family constellation (i.e., one- vs. two-parent family; see Figure 4 and Table 1). Although the socio-economic status based on fathers' occupation codes (Blishen, 1987) did not differ across groups, mothers of adolescents in the maltreatment group had lower occupation codes than mothers of adolescents in the no-maltreatment group.

School history information is presented in Table 2. Adolescents in both groups were similar with respect to grade and number of schools attended. There was a significantly larger proportion of adolescents in the maltreatment group attending some type of special class, compared to the no-maltreatment group (40.7% vs. 18.5%). Interestingly, in spite of the apparent academic difficulties, there was no difference in adolescents' stated future academic plans with the vast majority in both groups (over 85%) indicating a desire to complete college or university.

Figure 1: HISTORY OF MALTREATMENT EXPERIENCES

Combined Sample ($n=142$)

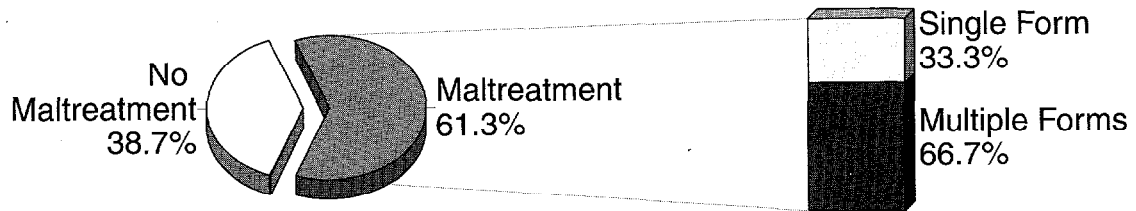


Figure 2: FORMS OF MALTREATMENT EXPERIENCE

Combined Sample ($n=142$)

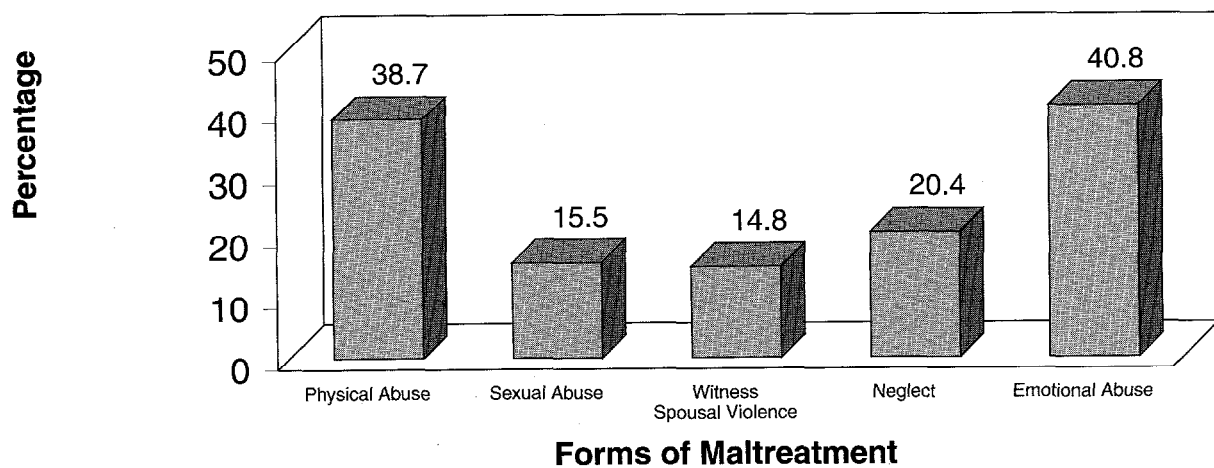


Figure 3: FORMS OF SELF-REPORTED MALTREATMENT EXPERIENCES: MALES VERSUS FEMALES

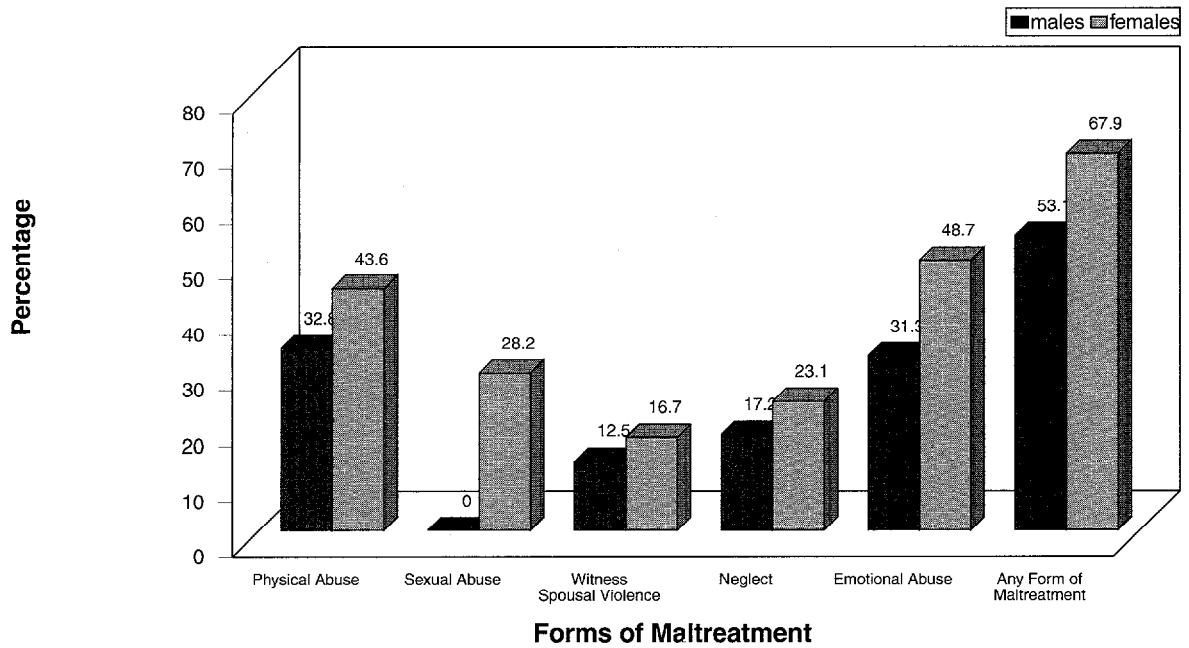
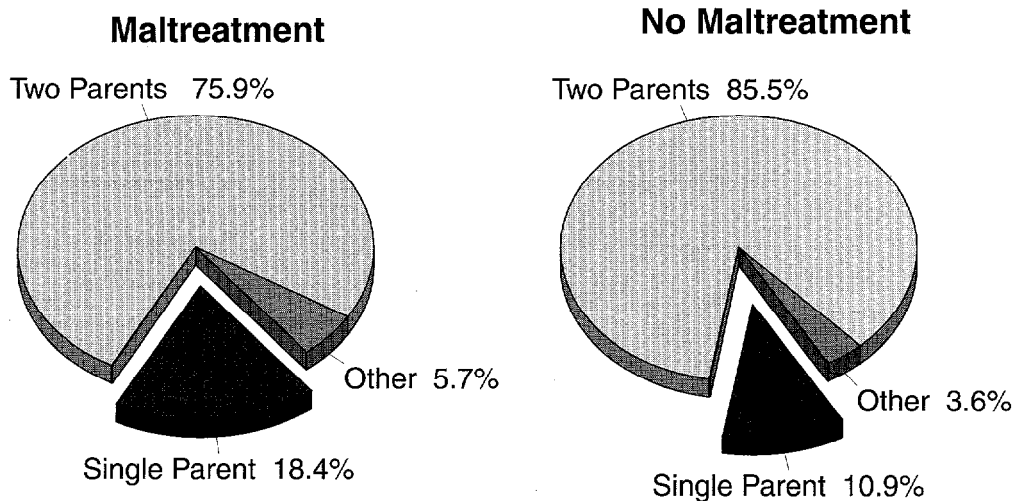


Figure 4: FAMILY CONSTELLATION



**Table 1:
Comparisons Between Adolescents with a History of Maltreatment and those without
a History of Maltreatment on Demographic Variables**

		Mal- treatment	No Mal- treatment	Statistic
Age	<u>n</u>	87	55	n.s.
	<u>M</u>	15.14	15.35	
	<u>SD</u>	(1.06)	(.93)	
Sex		(<u>n</u> =87)	(<u>n</u> =55)	n.s.
Male	<u>Fq</u>	34	30	
	%	39.1%	54.5%	
Female	<u>Fq</u>	53	25	
	%	60.9%	45.5%	
Socio-economic Status				
Mother	<u>n</u>	51	37	<u>t</u> (86)=-2.05*
	<u>M</u>	40.33	48.79	
	<u>SD</u>	(17.70)	(20.80)	
Father	<u>n</u>	62	35	n.s.
	<u>M</u>	46.57	44.57	
	<u>SD</u>	(15.97)	(9.87)	
Family Constellation		(<u>n</u> =87)	(<u>n</u> =55)	n.s.
Single parent	<u>Fq</u>	16	6	
	%	18.4%	10.9%	
Two parents	<u>Fq</u>	66	47	
	%	75.9%	85.5%	
Other	<u>Fq</u>	5	2	
	%	5.7%	3.6%	

* $p < .05$

Table 2:
Comparisons Between Adolescents with a History of Maltreatment and those without a History of Maltreatment on School History

		Mal-treatment	No Mal-treatment	Statistic
Grade	<u>n</u>	86	55	n.s.
	<u>M</u>	10.26	9.93	
	<u>SD</u>	(1.00)	(1.00)	
Number of Schools Attended	<u>n</u>	86	55	n.s.
	<u>M</u>	4.15	3.44	
	<u>SD</u>	(2.50)	(1.87)	
Attend Special Class		(<u>n</u> =86)	(<u>n</u> =54)	$\chi^2(1, \underline{n}=140) = 7.48^{**}$
Yes	<u>Fq</u>	35	10	
	%	40.7%	18.5%	
No	<u>Fq</u>	51	44	
	%	59.3%	81.5%	
Education Plans		(<u>n</u> =87)	(<u>n</u> =55)	
Complete high school	<u>Fq</u>	13	7	
	%	14.9%	12.7%	
Complete college	<u>Fq</u>	74	48	
	%	85.1%	87.3%	

** $p < .01$

Histories of Maltreatment and Family Background Information

Information on adolescent-reported family background problems are presented in Figure 5 and Table 3. For each background category, adolescents reported whether a parent or a sibling in their family had experienced such difficulties. Significantly more adolescents with self-reported histories of maltreatment also had a family member with a background of mental illness, substance abuse, maltreatment and/or criminal offences, compared with the no-maltreatment adolescents. There was no difference across groups in the number of adolescents with a sibling who had dropped out of school.

Histories of Maltreatment and Life Events

Adolescents with histories of maltreatment obtained significantly higher Negative Life Events scores (Johnson & McCutcheon, 1980), compared with adolescents in the no-maltreatment group (9.86 vs. 4.85) (see Table 3). There was no difference between the two groups, however, in their Positive Life Events scores.

Histories of Maltreatment and Family Functioning

Results on family functioning based on adolescent reports on the Family Environment Scale (Moos & Moos, 1986) are presented in Table 4. There were significant differences in several areas of family functioning across the two groups. Adolescents in the maltreatment group reported lower cohesion, independence and organization, and higher conflict, in their families relative to adolescents in the no-maltreatment group.

Figure 5: FAMILY BACKGROUND

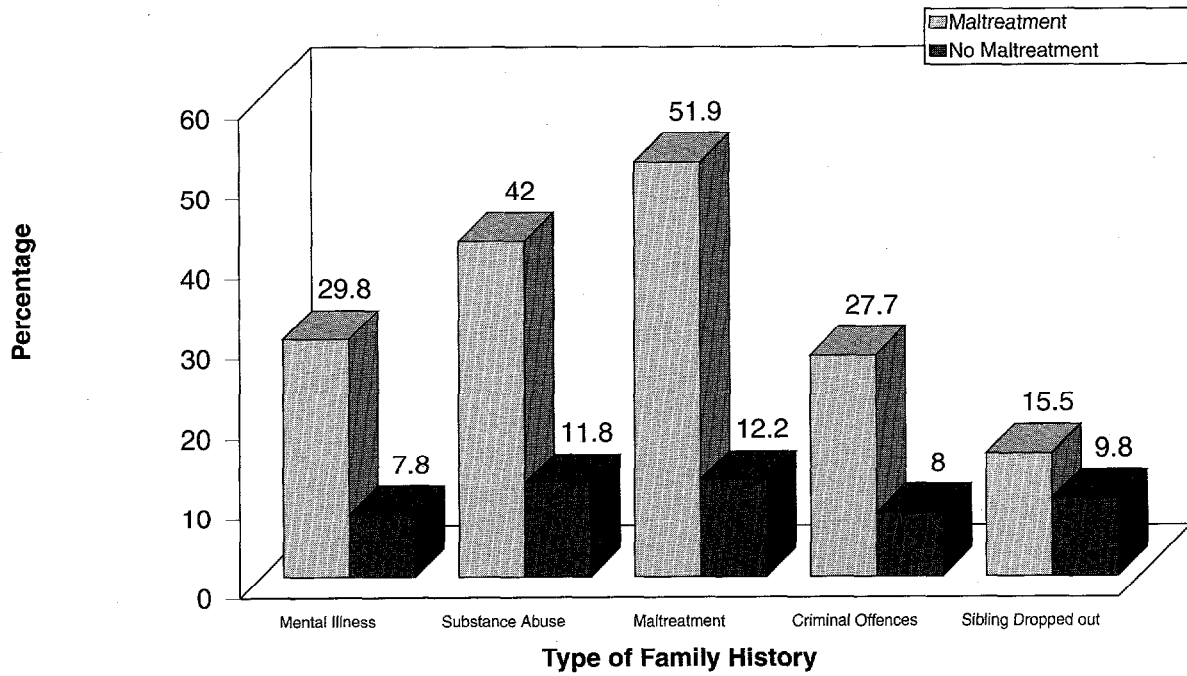


Table 3:
Comparisons Between Adolescents with a History of Maltreatment and those without a History of Maltreatment on Family Background

		Mal-treatment	No Mal-treatment	Statistic
Family History of Mental Illness		(<u>n</u> =87)	(<u>n</u> =55)	$\chi^2(1, \underline{n}=135)=9.03^{**}$
No	<u>Fq</u> %	61 70.2%	51 92.2%	
Yes	<u>Fq</u> %	26 29.8%	4 7.8%	
Family History of Substance Abuse		(<u>n</u> =87)	(<u>n</u> =55)	$\chi^2(1, \underline{n}=132)=13.52^{***}$
No	<u>Fq</u> %	50 58.0%	49 88.2%	
Yes	<u>Fq</u> %	37 42.0%	6 11.8%	
Family History of Maltreatment		(<u>n</u> =87)	(<u>n</u> =55)	$\chi^2(1, \underline{n}=126)=20.36^{***}$
No	<u>Fq</u> %	42 48.1%	48 87.8%	
Yes	<u>Fq</u> %	45 51.9%	7 12.2%	
Family History of Criminal Offences		(<u>n</u> =87)	(<u>n</u> =55)	$\chi^2(1, \underline{n}=133)=7.49^{**}$
No	<u>Fq</u> %	63 72.3%	51 92.0%	
Yes	<u>Fq</u> %	24 27.7%	4 8.0%	
Sibling Dropped out of School		(<u>n</u> =84)	(<u>n</u> =51)	n.s.
No	<u>Fq</u> %	71 84.5%	46 90.2%	
Yes	<u>Fq</u> %	13 15.5%	5 9.8%	
Other Negative Life Events	<u>n</u> <u>M</u> <u>SD</u>	81 9.86 (7.92)	53 4.85 (4.78)	$t(132)=4.14^{***}$

** $p < .01$, *** $p < .001$

Table 4:
Comparisons Between Adolescents with a History of Maltreatment and those without a History of Maltreatment on Family Functioning

		Mal-treatment (n=87)	No Mal-treatment (n=55)	t-value (df=140)
Cohesion	<u>M</u>	37.97	51.53	-4.29***
	<u>SD</u>	(19.79)	(15.73)	
Expressiveness	<u>M</u>	41.38	44.92	n.s.
	<u>SD</u>	(12.99)	(12.25)	
Conflict	<u>M</u>	57.20	46.78	4.46***
	<u>SD</u>	(13.87)	(13.05)	
Independence	<u>M</u>	41.13	48.65	-3.02*
	<u>SD</u>	(15.31)	(12.97)	
Achievement Orientation	<u>M</u>	52.01	50.33	n.s.
	<u>SD</u>	(10.46)	(10.95)	
Organization	<u>M</u>	47.03	54.47	-3.88***
	<u>SD</u>	(11.76)	(10.04)	
Control	<u>M</u>	52.14	48.12	n.s.
	<u>SD</u>	(13.98)	(11.10)	

* $p < .05$, *** $p < .001$

Histories of Maltreatment and Individual Adolescent Functioning

Information on individual functioning is presented in Figure 6 and Table 5. Four dimensions of adolescent self-concept were assessed using the Self-Description Questionnaire II (Marsh, 1988): physical attractiveness, honesty/trustworthiness, parent relations, and general self. Adolescents with self-reported histories of maltreatment obtained scores suggesting significantly poorer self-esteem in the areas of general self and parent relations.

Three dimensions of general psychosocial functioning were assessed using the Youth Self-Report (Achenbach, 1991): social competence, internalizing behaviour problems (e.g., anxiety, depression, somatization), and externalizing behaviour problems (e.g., delinquency, aggression). Although there was no difference across the two groups in their social competence, adolescents with maltreatment histories had significantly more internalizing and externalizing behaviour problems.

Adolescents in the maltreatment group also were twice as likely to have received some form of treatment in the past (57.6% vs. 26.0%), compared with those in the no-maltreatment group (see Table 5).

Figure 6: INDIVIDUAL ADOLESCENT FUNCTIONING

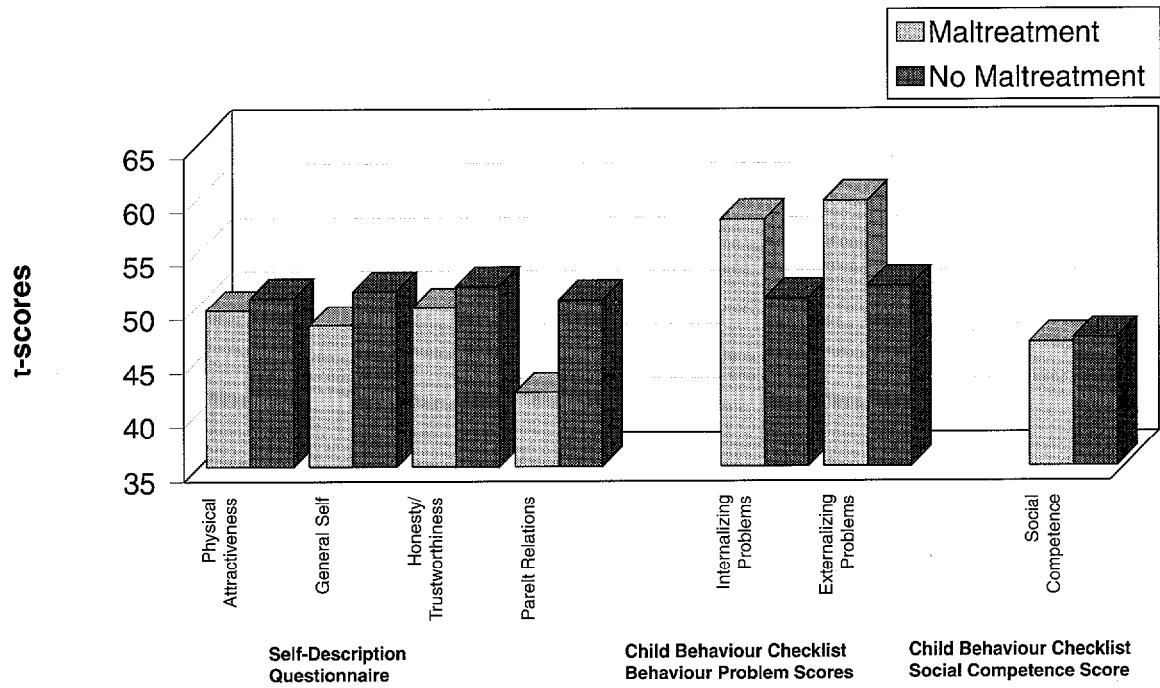


Table 5:
Comparisons Between Adolescents with a History of Maltreatment and those without a History of Maltreatment on Individual Adolescent Functioning

		Mal-treatment	No Mal-treatment	Statistic
Self-Description Questionnaire:				
Physical Attractiveness	<u>n</u>	86	55	n.s.
	<u>M</u>	49.50	51.25	
	<u>SD</u>	(9.50)	(9.90)	
General Self	<u>n</u>	81	54	<u>t</u> (133)=-2.09*
	<u>M</u>	48.10	51.70	
	<u>SD</u>	(10.16)	(9.34)	
Honesty/Trustworthiness	<u>n</u>	86	54	n.s.
	<u>M</u>	49.76	52.54	
	<u>SD</u>	(10.23)	(9.65)	
Parent Relations	<u>n</u>	87	55	<u>t</u> (140)=-4.90***
	<u>M</u>	41.86	50.47	
	<u>SD</u>	(11.38)	(7.98)	
Child Behaviour Checklist				
Social Competence	<u>n</u>	71	42	n.s.
	<u>M</u>	46.48	46.86	
	<u>SD</u>	(11.35)	(10.09)	
Internalizing Behaviour Problems	<u>n</u>	83	50	<u>t</u> (131)= 3.51***
	<u>M</u>	57.95	50.58	
	<u>SD</u>	(12.60)	(10.06)	
Externalizing Behaviour Problems	<u>n</u>	83	50	<u>t</u> (131)= 3.86***
	<u>M</u>	59.63	51.72	
	<u>SD</u>	(11.46)	(11.42)	
Received Treatment		(n=85)	(n=50)	$\chi^2(1, n=135)=12.69***$
	Yes	<u>Fq</u>	13	
	%	57.6%	26.0%	
No	<u>Fq</u>	36	37	
	%	42.4%	74.0%	

*** $p < .001$, * $p < .05$

Histories of Maltreatment and Risk Behaviours

Other than psychosocial functioning, seven self-reported risk behaviours were evaluated in this study: cigarette use, alcohol use, drug use, school attendance (truancy), criminal charges, running away from home, and suicidal thinking (Table 6).

Similar results were obtained across the three substance-use categories (cigarettes, alcohol, drugs;

Figures 7-9). Although there was experimentation in both groups (i.e., "tried it a few times"), adolescents in the maltreatment group were more likely to report occasional to frequent use of cigarettes and occasional use of alcohol compared to adolescents in the no-maltreatment group. Compared to cigarette and alcohol use, many fewer adolescents reported ever having tried drugs. However, adolescents in the maltreatment group were more likely to have used drugs, compared to those not reporting any maltreatment.

There was no significant difference in the percentage of adolescents across the two groups reporting irregular school attendance, school suspensions, or having been charged with a criminal offence, although the rates for these behaviours were consistently higher in the maltreatment group (Figure 10).

Significantly more adolescents in the maltreatment group reported having run away from home and/or having thought about killing themselves, compared with those in the no-maltreatment group. The results on suicidal thinking were quite striking: 41.2% of the maltreatment group reported having had thoughts of killing themselves, with 40% of those having such thoughts often. Only 11.5% of the no-maltreatment group reported any suicidal thoughts (Figure 10).

Table 6:
Comparisons Between Adolescents with a History of Maltreatment and those without a History of Maltreatment on Risk Behaviours

		Mal-treatment	No Mal-treatment	Statistic
School Attendance		(<u>n</u> =87)	(<u>n</u> =55)	n.s.
Regular	<u>Fq</u>	53	41	
	%	60.9%	74.5%	
Not regular	<u>Fq</u>	34	14	
	%	39.1%	25.5%	
Run Away from Home		(<u>n</u> =86)	(<u>n</u> =54)	$\chi^2(1, \underline{n}=140)=10.79^{***}$
Yes	<u>Fq</u>	29	5	
	%	33.7%	9.3%	
No	<u>Fq</u>	57	49	
	%	66.3%	90.7%	
Cigarette Use		(<u>n</u> =87)	(<u>n</u> =54)	$\chi^2(1, \underline{n}=141)=16.13^{***}$
Never tried it	<u>Fq</u>	17	22	
	%	19.5%	40.7%	
Tried it a few times	<u>Fq</u>	16	17	
	%	18.4%	31.5%	
Occasional use	<u>Fq</u>	15	3	
	%	17.2%	5.6%	
Frequent use	<u>Fq</u>	39	12	
	%	44.8%	22.2%	

*** $p < .001$

Table 6 (Cont'd)
Comparisons Between Adolescents with a History of Maltreatment and those without a History of Maltreatment on Risk Behaviours

		Mal-treatment	No Mal-treatment	Statistic
Alcohol Use		(<u>n</u> =87)	(<u>n</u> =55)	$\chi^2(3, \underline{n}=142)=11.16^*$
Never tried it	<u>Fq</u>	11	8	
	%	12.6%	14.5%	
Tried it a few times	<u>Fq</u>	21	26	
	%	24.1%	47.3%	
Occasional use	<u>Fq</u>	47	15	
	%	54.0%	27.3%	
Frequent use	<u>Fq</u>	8	6	
	%	9.2%	10.9%	
Drug Use		(<u>n</u> =86)	(<u>n</u> =55)	$\chi^2(3, \underline{n}=141)=11.19^*$
Never tried it	<u>Fq</u>	53	48	
	%	61.6%	87.3%	
Tried it a few times	<u>Fq</u>	14	2	
	%	16.3%	3.6%	
Occasional use	<u>Fq</u>	14	4	
	%	16.3%	7.3%	
Frequent use	<u>Fq</u>	5	1	
	%	5.8%	1.8%	
Ever Charged with a Criminal Offence		(<u>n</u> =86)	(<u>n</u> =54)	n.s.
Yes	<u>Fq</u>	21	6	
	%	24.4%	11.1%	
No	<u>Fq</u>	65	48	
	%	75.6%	88.9%	
Think of Killing Self		(<u>n</u> =85)	(<u>n</u> =52)	$\chi^2(2, \underline{n}=137)=13.71^{**}$
Never	<u>Fq</u>	50	46	
	%	58.8%	88.5%	
Sometimes	<u>Fq</u>	25	5	
	%	29.4%	9.6%	
Often	<u>Fq</u>	10	1	
	%	11.8%	1.9%	

* $p < .05$, ** $p < .01$

Figure 7: CIGARETTE USE

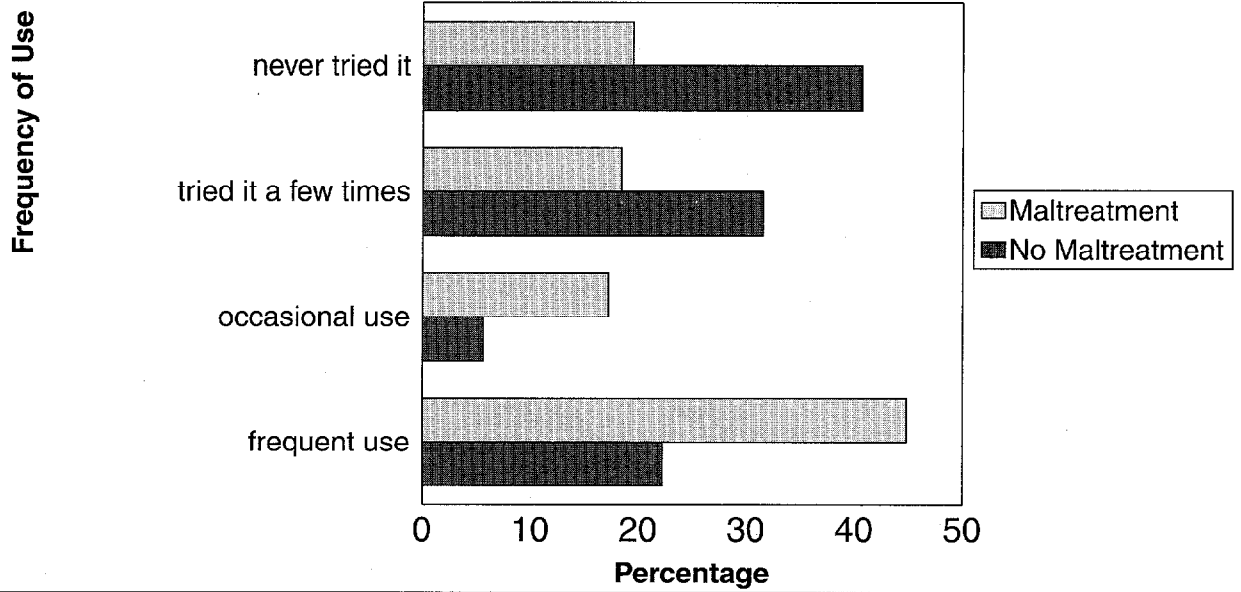


Figure 8: ALCOHOL USE

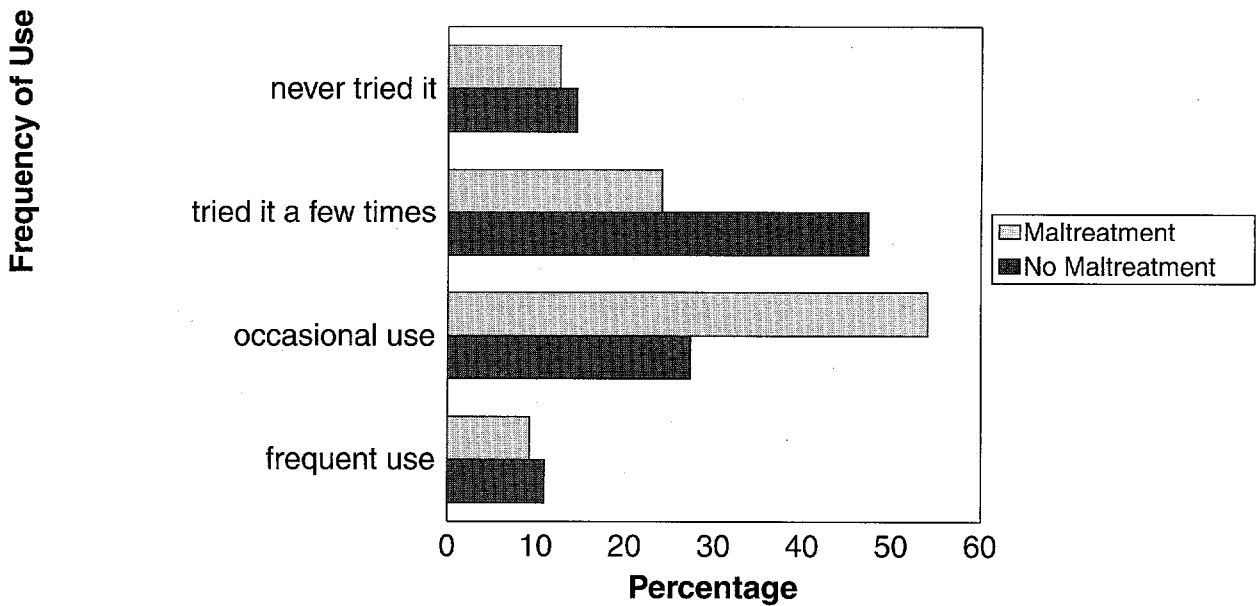


Figure 9: DRUG USE

Frequency of Use

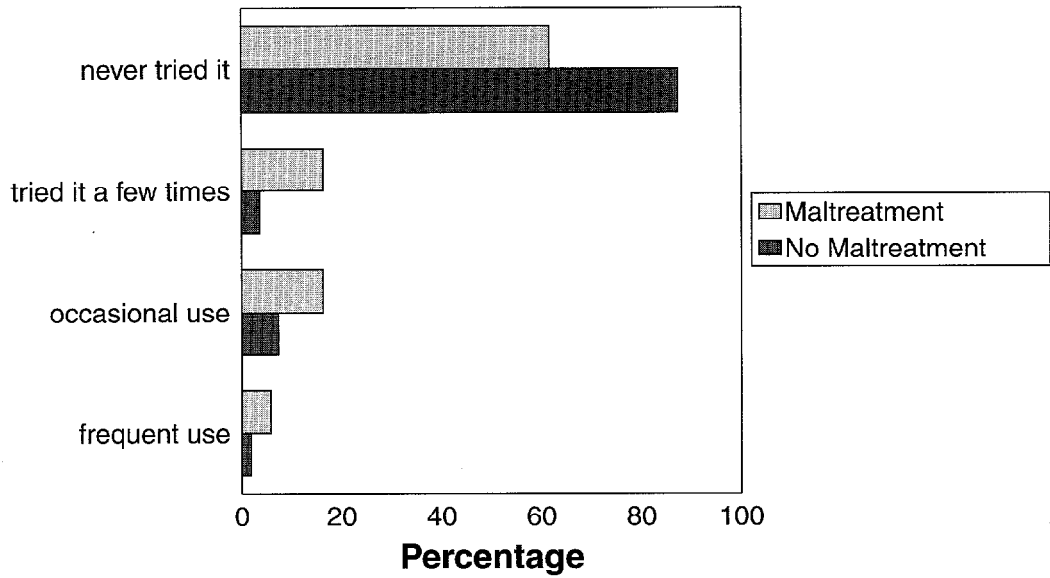
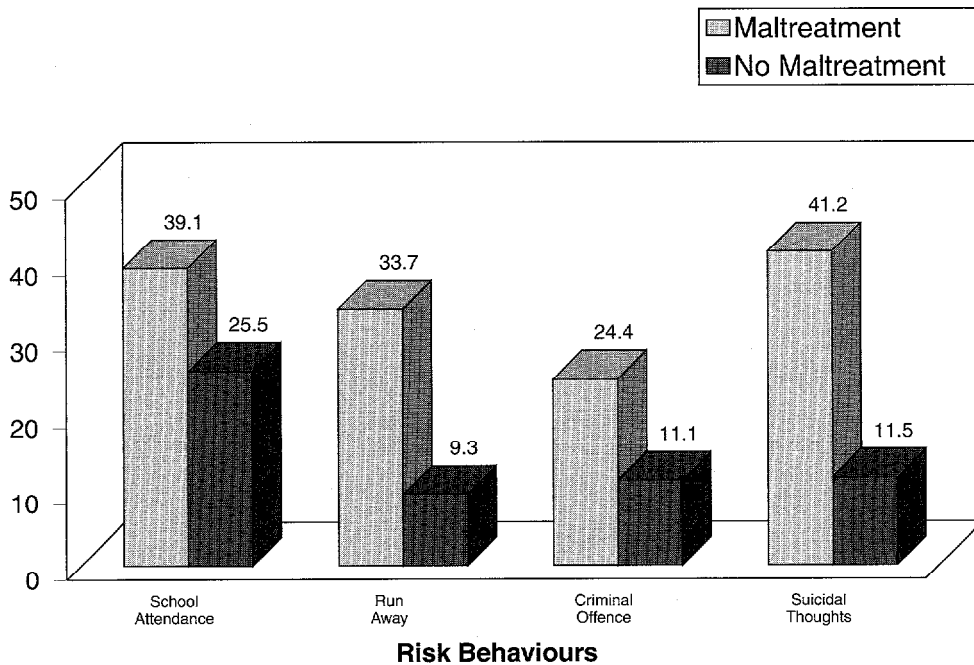


Figure 10: ADOLESCENT RISK BEHAVIOURS

Percentage



Single vs. Multiple Forms of Maltreatment and Risk Behaviours

A series of chi-square analyses revealed no significant differences in the proportion of adolescents experiencing any of the various risk behaviours, based on whether they reported single vs. multiple forms of maltreatment. Although not statistically significant, with the exception of criminal charges and social competence, adolescents reporting multiple forms of maltreatment displayed higher frequencies of all other risk behaviours compared to adolescents reporting a single form of maltreatment.

Odds ratio analyses were conducted to determine the relative risk of engaging in the various risk behaviours based on maltreatment histories. In each case, the no-maltreatment group was used as the reference group for calculating the odds ratios. Each category of risk behaviour was dichotomized into categories reflecting clinical relevance. For example, cigarette use was dichotomized into those having “never tried” or “only tried a few times” and those who “smoke occasionally” or “regularly.” Drug use was dichotomized into those “never having tried” and those who have “tried and/or used drugs regardless of frequency.” Clinical cutoffs (borderline and clinical range) suggested by Achenbach (1991) were used for individual functioning data from the Youth Self-Report.

Significant ($p < .05$) odds ratios for single and multiple forms of maltreatment are presented in Table 7. The only risk behaviours that adolescents reporting a single form of maltreatment were significantly more likely to engage in than those not reporting any maltreatment, were cigarette use (3.68 times more likely) and drug use (3.81 times more likely). It should be noted that odds ratios are greatly influenced by sample size, and that the frequency of single-form maltreatment was quite low.

Those adolescents reporting multiple forms of maltreatment were significantly more likely to engage in five out of seven risk behaviours (i.e., cigarettes, alcohol and drug use, running away from home, thinking about suicide), compared with those not reporting maltreatment histories. The odds ratios ranged from 3.3 times more likely to use alcohol to 6.90 times more likely to have

had thoughts of killing themselves. They were not more likely to have had problems with school attendance or to have been charged with a criminal offence. They were also significantly more likely to be functioning in the borderline to clinical range for both internalizing and externalizing behaviour problems compared with those not reporting any form of maltreatment.

Forms of Maltreatment and Risk Behaviours

Odds ratios were also calculated in order to look at the relationship between the risk behaviours, individual functioning and the various forms of maltreatment. Again, those not having experienced any form of maltreatment were used as the reference group to calculate the odds ratios. As can be seen in Table 8, with a few exceptions, the pattern of significant odds ratios ($p < .05$) is similar across all of the risk behaviours and the areas of individual functioning, although the magnitude of the associations varies across forms of maltreatment.

Adolescents reporting each of the forms of maltreatment were significantly more likely to engage in substance use, be it tobacco, alcohol or drugs. The odds ratios ranged from 2.83 times more likely to use alcohol, if physically abused, to 11.14 times more likely to use drugs if the adolescent reported having witnessed spousal violence. Witnessing spousal violence appeared to have the highest or near highest odds ratios for all categories of substance use assessed.

Particularly elevated odds ratios were obtained across all forms of maltreatment for both “running away from home” and “thinking of killing self.” Adolescents across all forms of maltreatment were at least five times more likely to display these risk behaviours compared to those with no-maltreatment. Those experiencing neglect were 11.31 times more likely to have run away from home. Those experiencing neglect and those witnessing spousal violence were 8.43 times more likely to have had suicidal thoughts. The relationship between the various forms of maltreatment and risk behaviours are further demonstrated in the correlations presented in Table 9.

Table 7:
Significant Odds Ratios* of Engaging in the Various Risk Behaviours for Adolescents with Single or Multiple Forms of Maltreatment, with those Experiencing No Maltreatment Being the Reference Group

Risk Behaviour	Exposure to One Form of Maltreatment	Exposure to Multiple Forms of Maltreatment
Cigarette Use	3.68	4.58
Alcohol Use	—	3.32
Drug Use	3.81	4.51
Run Away from Home	—	6.63
Truancy	—	—
Criminal Charge	—	—
Thoughts of Killing Self	—	6.90
Child Behaviour Checklist (Borderline to Clinical Range):		
Social Competence	—	—
Internalizing Behaviour Problems	—	2.55
Externalizing Behaviour Problems	—	2.86

* $p < .05$

Table 8:
Significant Odds Ratios* of Engaging in the Various Risk Behaviours for Adolescents Exposed to Different Forms of Maltreatment, with those Experiencing No Maltreatment Being the Reference Group

Risk Behaviour	Physical Abuse	Sexual Abuse	Witness Spousal Violence	Neglect	Emotional Abuse
Cigarette Use	4.21	6.93	8.32	5.78	4.25
Alcohol Use	2.83	3.47	4.05	4.25	3.32
Drug Use	4.03	9.90	11.14	6.40	4.19
Run Away from Home	5.76	8.16	7.35	11.31	5.72
Truancy	—	2.93	—	—	—
Criminal Charge	—	—	4.00	—	—
Thoughts of Killing Self	6.13	6.39	8.43	8.43	5.72
Child Behaviour Checklist (Borderline to Clinical Range):					
Social Competence	—	—	—	—	—
Internalizing Behaviour Problems	2.27	2.03	2.66	4.15	2.93
Externalizing Behaviour Problems	2.97	3.85	3.56	2.86	3.28

* $p < .05$

Table 9:
Correlations Between Adolescent Risk Behaviours and Adolescent Maltreatment Histories

Risk Behaviours	Physical Abuse	Sexual Abuse	Witness Spousal Violence	Neglect	Emotional Abuse	Composite Maltreatment
School Attendance	.06	.20**	.20**	.19*	.14*	.22**
Cigarette Use	.20**	.14	.19*	.21**	.23**	.29***
Alcohol Use	.04	.03	.11	.13	.15*	.14*
Drug Use	.19*	.26**	.32***	.29***	.21**	.36***
Thoughts About Killing Self	.27**	.18*	.19*	.30***	.38***	.40***
Runs Away From Home	.20*	.34***	.21**	.37***	.22**	.38***

*** $p < .001$, ** $p < .01$, * $p < .05$

Only those reporting a history of sexual abuse were significantly more likely to have had school attendance problems (truancy) while those witnessing spousal violence were the only ones more likely to have been charged with a criminal offence (4.0 times more likely).

In the area of individual functioning, regardless of the form of maltreatment reported, adolescents were not more likely to experience clinically significant difficulties in social competence. For each form of maltreatment however, adolescents were more likely (two to four times more likely) to experience clinically significant internalizing and externalizing behaviour problems, compared to those not experiencing any form of maltreatment. With the exception of those reporting neglect, the odds ratios for externalizing problems were higher than those for internalizing problems.

Relationship Between the Different Forms of Maltreatment

As can be seen in Table 10, all of the different forms of maltreatment investigated in this study were significantly intercorrelated. Correlations between the different individual forms of maltreatment ranged from .14 to .50. All of the forms of maltreatment also correlated significantly with the composite maltreatment score (i.e., sum of scores across all maltreatment categories). Except for its correlation with neglect (.32), sexual abuse had the lowest intercorrelations with the other forms of maltreatment.

**Table 10:
Intercorrelations Among the Different Forms of Maltreatment**

	Physical Abuse	Sexual Abuse	Witness Spousal Violence	Neglect	Emotional Abuse	Composite Maltreatment
Physical Abuse		.19*	.29***	.33***	.49***	.69***
Sexual Abuse			.19*	.32***	.14*	.47***
Witness Spousal Abuse				.46***	.31***	.66***
Neglect					.50***	.77***
Emotional Abuse						.79***

*** $p < .001$, ** $p < .01$, * $p < .05$

Relationship Between the Different Risk Behaviours

As can be seen in Table 11, many of the risk behaviours were significantly intercorrelated and/or correlated with various areas of individual functioning. Not surprisingly, the substance use behaviours (cigarettes, alcohol, drugs) had high intercorrelations ranging from .33 to .59. "Running away from home and "truancy" (irregular school attendance) also correlated significantly with substance use. "Criminal charges" was highly correlated with "cigarette use," "running away from home" and "externalizing behaviour problems" was highly correlated with all of the risk behaviours except "social competence," which in turn showed moderate correlations with "drug use" and "internalizing behaviour problems." "Suicidal thinking" was most highly correlated with "internalizing behaviour problems" as well as with "drug use" and "externalizing behaviour problems."

Family Background Information and Risk Behaviours

Odds ratio analyses were also conducted to determine the strength of the relationship between risk behaviours and the presence of problematic family histories (i.e., problems experienced by a parent or sibling), as reported by the adolescents. As can be seen from the results presented in Table 12, different types of problems in other family members were associated with a higher probability of engaging in different types of risk behaviours. None of the problematic family histories were associated with any greater risk of showing

clinically significant problems in the area of social competence. All of the family background problems, however, were associated with a greater likelihood of displaying clinically significant internalizing and externalizing behaviour problems, compared with those who did not have such problems in their family background. In particular, adolescents reporting a family history of criminal offences were 6.32 times more likely to have externalizing behaviour problems themselves than those without such a family history. The only risk behaviour associated with a family history of mental illness was "running away from home." Adolescents reporting substance abuse problems in other family members were significantly more likely to engage in all of the risk behaviours examined in this study except criminal offences. Of particular note was a history of "sibling dropped out of school," which was the only factor that appeared to be associated with adolescent truancy (irregular school attendance), with the risk being 6.09 times greater for those with a sibling who had dropped out, compared with those without a sibling having dropped out. Unlike the results for the different forms of maltreatment presented earlier, few of the family history variables showed a significant association with suicidal thinking.

The relationship between family histories and risk behaviours is also displayed in Table 13, with correlations between these variables being presented.

Table 11:
Intercorrelations Among Risk Behaviours and Measures of Individual Functioning

	Drug Use	Alcohol Use	Run Away	Truancy	Crim. Charge	Suicidal Thoughts	Social Competence	Internal Behaviour Problems	External Behaviour Problems
Cigarette Use	.59***	.33***	.32***	.38***	.39***	.20*	-.17*	.11	.39***
Drug Use		.42**	.25**	.52***	.13	.36**	-.27**	.27**	.35***
Alcohol Use			.24**	.31**	.04	.18*	-.17*	.10	.33***
Run Away From Home				.24**	.23**	.19*	-.19*	.28**	.34***
Truancy					.09	.17*	-.12*	.16*	.37***
Criminal Charge						.04	-.10	.03	.21**
Thoughts of Killing Self							-.11	.58***	.39***
Social Competence								-.26**	-.11
Internalizing Behaviour Problems									.53***

*** $p < .001$, ** $p < .01$, * $p < .05$

Table 12:
Significant Odds Ratios* of Engaging in the Various Risk Behaviours for Adolescents with Problematic Family Histories, with those without such Histories Being the Reference Group

Risk Behaviours	Family History				
	Mental Illness	Substance Abuse	Mal-treatment	Criminal Offences	Sibling Dropped out of School
Cigarette Use	—	6.05	—	4.67	10.56
Alcohol Use	—	3.43	—	—	—
Drug Use	—	8.12	—	—	6.29
Run Away from Home	6.41	7.70	5.13	6.04	3.41
Truancy	—	3.89	3.76	—	6.09
Criminal Charge	—	—	—	4.08	—
Thoughts of Killing Self	—	2.69	3.17	—	—
Child Behaviour Checklist (Borderline to Clinical Range):					
Social Competence	—	—	—	—	—
Internalizing Behaviour Problems	2.84	3.67	2.36	3.36	3.27
Externalizing Behaviour Problems	2.53	4.47	3.22	6.32	3.32

* $p < .05$

Table 13:
Correlations Between Adolescent Risk Behaviours and Family History

Risk Behaviours	Family History				
	Mental Illness	Substance Abuse	Mal-treatment	Criminal Offences	Sibling Dropped out of School
School Attendance	.20**	.29***	.37***	.11	.30***
Cigarette Use	.14	.41***	.13	.26**	.31***
Alcohol Use	.17**	.30***	.09	.12	.15*
Drug Use	.22**	.51***	.26**	.16	.32***
Thoughts about Killing Self	.06	.25**	.29**	.15	.05
Run Away from Home	.41***	.48***	.26**	.33***	.21**

*** $p < .001$, ** $p < .01$, * $p < .05$

Discussion

Prior to a discussion of the various findings of the present research, it is important to remind the reader that, due to the study design, it is not possible to ascertain whether or not causative relationships exist between childhood histories of maltreatment and subsequent involvement in at-risk behaviour. The co-occurrence of the maltreatment experiences and the various risk behaviours examined in this study do, however, have clinical, research and policy implications for those working with adolescents.

Maltreatment

A striking result involved the self-report of histories of maltreatment in sixty-one percent of the adolescents participating in this study. Emotional abuse and physical abuse were most frequently reported, followed by reports of neglect, sexual abuse and witnessing spousal violence. A high degree of association was found between the various forms of maltreatment reported by adolescents. Thus it was less likely for an adolescent to report experiencing only one form of maltreatment, and more likely for an adolescent to report experiencing concurrent forms of maltreatment. Of the adolescents who reported histories of maltreatment, two-thirds experienced multiple forms of maltreatment. In addition, an adolescent reporting multiple forms of maltreatment showed stronger relationships to engaging in risk behaviours and to having clinically significant problems in individual functioning than adolescents reporting only one form of maltreatment.

Implications of these findings suggest that maltreatment experiences may place an adolescent at higher risk of engaging in risk behaviours and that exposure to more than one form of

maltreatment increases this risk. Also, if one form of maltreatment is known to be occurring, it would be important to screen for other possible forms of maltreatment.

Family History

Several components of family background characteristics differed for maltreated adolescents. In comparison to adolescents reporting no history of maltreatment, adolescents reporting histories of maltreatment were more likely to report having family histories (i.e., involving a parent or sibling of the adolescent involved in the study) of mental illness, substance abuse, maltreatment and criminal offences. In addition, adolescents reporting histories of maltreatment also reported family functioning to be characterized by lower levels of cohesion, higher levels of conflict, lower levels of independence and lower levels of organization. Parent/adolescent relationships also appeared to be a relative area of weakness in maltreated adolescents' self-esteem. Dimensions of family life represent an important source of information for understanding adolescent functioning. Involving the family unit remains an important focus for detection and intervention.

Adolescent Adjustment

Maltreatment reported by adolescents was associated with several deficits in adjustment. Adolescents reporting histories of maltreatment were also more likely to report more internalizing behaviour problems (e.g., anxiety, depression), more externalizing behaviour problems (e.g., aggression, delinquency), and lower self-esteem as it related to general self and parent relations.

Risk Behaviours

Adolescents reporting histories of maltreatment were also more likely to report engaging in certain risk behaviours than adolescents not reporting histories of maltreatment. Specifically, adolescents reporting histories of maltreatment reported that they were more likely to have run away from home, been charged with a criminal offence, had suicidal thoughts, and used cigarettes, alcohol and drugs. Although a history of maltreatment was associated with a greater likelihood of engaging in all types of substance use evaluated in this study, the magnitude of the relationship was greater for

cigarette and drug use, and somewhat lower for alcohol use. This may reflect a tendency for more generalized experimentation with alcohol across all adolescents regardless of maltreatment histories and, therefore, is an issue of importance in and of itself. As well, the incidence of suicidal thinking among those with maltreatment histories is particularly disturbing (42.2%), compared to that of those not reporting such histories (11.5%).

There was a high degree of interrelation among the self-reports of the various risk behaviours evaluated in this study. If one risk behaviour was present, it was likely that the adolescent would also report engaging in other risk behaviours. Again, when working with adolescents who have known involvement in one risk behaviour, other risk behaviours should be assessed.

Limitations of Present Study

Several limitations of the present study should be noted as they relate to the interpretation of the findings. First, the sample size was too small to enable in-depth, within-group analyses to be completed. For example, it was not possible to conduct thorough analyses comparing adolescents with multiple versus single forms of maltreatment, or to examine differential sequelae according to specific forms of maltreatment. Second, the combination of two different groups of participants (New Beginnings For Youth, high school classrooms) may have influenced some of the results, particularly base rates of the various behaviours and experiences under investigation. Third, information about maltreatment experiences was obtained exclusively through self-reporting. Information obtained in this manner may be subject to certain biases. For example, in the present study, no males reported histories of sexual abuse. However, the information that was provided probably provides an underestimate of the problems making the results of this study that much more striking. Fourth, the measurement of risk behaviour, family histories and individual functioning was also obtained exclusively through adolescent self-reporting. Independent sources of information such as police reports, school records, etc. would be useful in developing a more comprehensive understanding of maltreatment issues.

Research Directions

The following directions are suggested for future research examining the impact of maltreatment on adolescent risk behaviours.

1. Due to the nature of sample selection in the present study, it is not possible to ascertain normative base rates for maltreatment experiences or engagement in risk behaviours. Future research should obtain a large normative sample of adolescents to assess more accurately the prevalence of such issues. Risk behaviours were explored in the Canada Youth and Aids study (1988), but the researchers did not link their findings to maltreatment experiences. Large-scale studies that have combined an analysis of maltreatment experiences and risk behaviours have been conducted with American samples (Hibbard *et al.*, 1990), but remain to be undertaken in a Canadian context.

2. While maltreatment in childhood is likely associated with engaging in risk behaviours as an adolescent, a longitudinal research design would more accurately ascertain such a relationship.

3. In the present study, global ratings of five different forms of maltreatment were obtained. Global ratings were used in part to allow administration in a general school setting. In order to understand more about the specific nature, intensity and duration of maltreatment experiences, development of a more detailed questionnaire is required. Administration of a more in-depth questionnaire could be completed with youth who have indicated maltreatment experiences on the global ratings. For example, a differentiation of maltreatment experiences within and outside of the immediate family would be an important distinction to make in future research. Research by Manion, Firestone, McIntyre, Ensom and Wells (1994) has emphasized the impact that extrafamilial abusive experiences can have on child and adolescent functioning and that of their families.

4. Gender differences were apparent in the incidence of the different forms of self-reported maltreatment. Further research with this data set and/or with other samples should examine the different patterns of risk behaviour displayed across genders, and with respect to different forms

of maltreatment. For example, in previous research by Widom (1989), females were less likely than males to be arrested, although abused females were more likely than non-abused females to be arrested.

5. It would be important to assess the correspondence between the reported and actual engagement in risk behaviours. For example, reported involvement in criminal activities could be checked through an examination of criminal records. While such corroborative evidence may provide a more enriched understanding of adolescent risk behaviours, it is likely that any risk behaviours reported for the present study represent an underestimate of actual behaviours.

6. In the present study, the direct association between maltreatment experiences and adolescent risk behaviours was assessed. Results indicated that not all maltreated adolescents engaged in risk behaviours. This is in keeping with research by Smith and Thornberry (1993), which found that the majority of maltreated children in their study did not go on to commit delinquent acts. Protective factors such as supportive relationships, dispositional attributes or positive events may serve to buffer children against the effects of maltreatment and to prevent their engaging in various types of risk behaviour. A focus on family as well as social network variables may be particularly relevant in this regard. Future research should involve well-adjusted adolescents with maltreatment histories in order to increase the understanding of how such individuals cope with the stress of maltreatment.

7. Significant associations were found in the present study between adolescent risk behaviours and family variables such as the presence of mental illness, substance abuse, criminal activity and maltreatment. Future research needs to consider variables, other than maltreatment histories, that may also contribute to adolescent adjustment difficulties and to an increased likelihood of engaging in risk behaviours.

8. This study did not find a strong relationship between histories of maltreatment and school attendance or future educational plans. This may well be due to the fact that all participants were still in school and those at higher risk for dropping out may already have done so. A more appropriate

test of the relationship between maltreatment experiences and early departure from school would be to include a sample of those who have already dropped out. Another consideration would be the type of information that was collected on school attendance, and the risk of dropping out. Even when there were self-reported academic difficulties, there appeared to be a bias on the part of adolescents to deny any plans to leave school prematurely. This was particularly clear when they were asked about future academic goals. In order to have a more direct measure of adolescents' academic status, information on school achievement, as well as attendance histories, should be solicited directly from the school setting.

Clinical Implications

The findings of this study support the need for prevention and early intervention programs. Any effort whose goal is the prevention and/or early identification of abuse towards children and youth may have a direct impact on the prevention and later development of risk behaviours in adolescence. Similarly, early interventions for adolescents displaying significant levels of risk behaviours may help to stem the exacerbation of adolescent risk behaviours before the patterns become firmly established. Early intervention is likely to be more effective and cost efficient than programs that target more established dysfunctional family systems and entrenched maladaptive behaviour patterns.

Intervention for adolescents engaging in risk behaviours is also critical. Such youth typically experience multiple problems, and are at increased risk of continuing to engage in deviant behaviour. The practitioner should be particularly sensitive to the co-occurrence of risk behaviours and should screen for the array of risk behaviours when any one is present.

The present study demonstrates the importance of considering maltreatment experiences as well as family histories of risk behaviours and adjustment problems as important factors in the manifestation of adolescent risk behaviours. Programs working with high-risk children, youth and their families over sufficient time, may assist in addressing the stressors in their lives and promote healthy interpersonal growth.

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