



# OJJDP

Shay Bilchik, Administrator

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## JUVENILE JUSTICE BULLETIN

# In the Wake of Childhood Maltreatment



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*This Bulletin is part of the Office of Juvenile Justice and Delinquency Prevention (OJJDP) Youth Development Series, which presents findings from the Program of Research on the Causes and Correlates of Delinquency. Teams at the University at Albany, State University of New York; the University of Colorado; and the University of Pittsburgh collaborated extensively in designing the studies. At study sites in Rochester, New York; Denver, Colorado; and Pittsburgh, Pennsylvania, the three research teams have interviewed 4,000 participants at regular intervals for nearly a decade, recording their lives in detail. Findings to date indicate that preventing delinquency requires accurate identification of the risk factors that increase the likelihood of delinquent behavior and the protective factors that enhance positive adolescent development.*

This Bulletin presents findings on the relationship between childhood maltreatment and subsequent adolescent problem behaviors in the Rochester Youth Development Study. The researchers found that the subjects who had experienced maltreatment during childhood were significantly more likely to display a variety of problem behaviors during adolescence, including serious and violent delinquency, teen pregnancy, drug use, low academic

achievement, and mental health problems. Also, a history of childhood maltreatment appeared to be a significant risk factor for the development of multiple problems in adolescence.

Throughout history, the lives of some children have been diminished by their exposure to various forms of maltreatment, such as physical abuse, neglect, and sexual exploitation. As a new century approaches, Americans need not look beyond their own backyards to see the faces of children subjected to maltreatment, most often at the hands of parents and other caretakers.

## National Estimates of Child Maltreatment

How extensive is the problem of child maltreatment in the United States? This cannot be determined with certainty, because a substantial but unknown proportion of child maltreatment cases are never brought to the attention of State and local Child Protective Services. Therefore, the following national estimates of officially reported and substantiated cases of child maltreatment undoubtedly undercount the actual number of victimized children. The following estimates were derived from annual surveys of all

### From the Administrator

The victimization of the weak by the strong—in this case, of children by adults—is one of the most shameful constants in human history. Unfortunately, contemporary American society is not immune from this repugnant behavior. The National Committee to Prevent Child Abuse estimates that 1 million children suffered maltreatment in the United States in 1995 alone. Because countless cases of suspected child abuse and neglect remain unreported, the actual number of abused and neglected children is unknown. What is known, however, is that maltreatment in childhood increases the risk of problems in adolescence, including juvenile delinquency, drug use, poor performance in school, teen pregnancy, and emotional and mental health disorders.

*In the Wake of Childhood Maltreatment* explores the connections between childhood maltreatment and subsequent problem behaviors. The findings of the Rochester Youth Development Study reported in this Bulletin are particularly valuable because they come from a general population sample, which allowed the researchers to examine how maltreated youth differ from the general adolescent population. The study results provide helpful insights into the cost survivors of childhood maltreatment often pay—a cost that is always too high.

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50 States and the District of Columbia conducted since 1986 by the National Committee to Prevent Child Abuse (NCPA) (Lung and Daro, 1996).

First, how many cases of maltreatment of children are reported in the United States? In 1995, NCPA estimated that:

- ◆ There were 3,111,000 children reported to Child Protective Services as alleged victims of maltreatment.
- ◆ Reports have steadily risen over the past decade, with a 49% increase from 1986 to 1995.
- ◆ Forty-six out of every one thousand American children (under 18 years old) were victims of reported child maltreatment in 1995, reflecting fairly steady growth from the reported rate of 33 per 1,000 children in 1986.

Second, how many reports were substantiated? NCPA estimated that:

- ◆ Approximately 1 million children were found to be victims of maltreatment each year from 1992 through 1995.
- ◆ Fifteen of every one thousand children were substantiated victims of child maltreatment in each of these years.
- ◆ About one-third of the reports of child maltreatment were confirmed.
- ◆ Of the substantiated 1995 reports, 54% involved neglect, 25% physical abuse, 11% sexual abuse, 3% emotional maltreatment, and the remainder involved other forms of maltreatment. (The breakdown of reported 1995 cases was essentially identical.)

Third, how often do children die as a result of abuse or neglect? NCPA cautions that the number of fatalities officially recorded as child maltreatment is considered an undercount of the actual incidence. The NCPA survey estimates that:

- ◆ During the past 10 years, more than three children died each day as a result of parental maltreatment.
- ◆ Abuse is the most common cause of death (48%), followed by neglect (37%) and a combination of abuse and neglect (15%).
- ◆ The majority of victims (85%) are under age 5, and nearly half (45%) of the victims never reach their first birthday.

In a 1995 report, the U.S. Advisory Board on Child Abuse and Neglect concluded that the most realistic estimate of annual child deaths from abuse and ne-

glect, known and unknown, is about 2,000 (or some 5 children every day) (U.S. Department of Health and Human Services, Administration for Children and Families, 1995).

The focus of this Bulletin is not on the victims whose lives are tragically ended as a direct result of child abuse and neglect. Rather, it concentrates on the majority of child maltreatment victims who have experienced maltreatment during critical stages of child development.

## Adolescent Consequences of Child Maltreatment

In addition to the immediate and short-term harm of child maltreatment, there are long-term ramifications of childhood victimization. Research has shown that the consequences of child maltreatment extend into adolescence and beyond (Widom, 1994). Survivors of child maltreatment experience many problems in the course of adolescent development. A variety of negative teenage outcomes, such as delinquency, pregnancy, alcohol and drug abuse, school failure, and emotional and mental health problems, have been identified.

Many researchers have utilized convenience samples of incarcerated delinquents, drug rehabilitation clients, pregnant teenagers, or institutionalized mental patients to conduct retrospective analyses of child maltreatment. Such studies have generally concluded that these troubled populations more frequently report histories of child maltreatment than would be expected in the general population.

Several methodological limitations affect the confidence that can be placed in the conclusions drawn from these types of studies, however. Few studies establish an adequate comparison group in their samples or measure an adequate range of risk factors, protective factors, and problem behaviors.

## Rochester Youth Development Study

The Rochester Youth Development Study, conducted by researchers at the University at Albany, State University of New York, is one of three collaborative longitudinal projects under OJJDP's Program of Research on the Causes and Cor-

relates of Delinquency. To determine how maltreated youth differ from the general adolescent population, the researchers asked:

- ◆ What is the range and extent of problems found among adolescents who were maltreated as children, compared with those who were not?
- ◆ To what extent is child maltreatment a risk factor for the development of multiple problems in adolescence?

The researchers found that maltreatment during childhood significantly increased the risk for a variety of adolescent problem behaviors, including delinquency, teen pregnancy, drug use, low academic achievement, and mental health problems.

Also, youth who had been victims of child maltreatment were more likely than nonmaltreated youth to exhibit multiple problem behaviors.

Subsequent analyses are planned to address additional research questions:

- ◆ What key risk factors appear to increase the likelihood that a maltreated child will become a troubled youth?
- ◆ What protective factors serve to enhance youth resilience despite a history of child maltreatment?

This research clearly has implications for policy and intervention efforts that target those challenging cases of adolescents who have problems in more than one area of life. The findings should be of interest to all persons in a position to prevent child maltreatment and to those who could intervene in the lives of victimized children and youth. Therefore, this Bulletin is intended not only for policymakers and practitioners but also for parents, who are in the best position to protect and nurture their children's development.

## Overview of the Study Design

The Rochester investigation of maltreatment outcomes was designed to consider several different domains of adolescent problem behavior utilizing a general population sample. Specific problem areas that are measured include:

- ◆ Moderate, serious, and violent delinquency.
- ◆ Teen pregnancy.
- ◆ Drug use.

- ◆ Low academic achievement.
- ◆ Mental health problems.

## Sample

The sample of 1,000 youth (75% boys and 25% girls) was drawn from public school students attending seventh and eighth grade in Rochester, New York, in spring 1988. African-Americans make up the majority of the sample (68%), while 17% are Hispanic and 15% are white. This sample was stratified to proportionally overrepresent those students considered at high risk for delinquency and drug use, based upon both their gender and their residence in high-crime neighborhoods. However, all data analyses presented here have been statistically weighted to represent the general cohort of all seventh and eighth graders in the Rochester public schools.

## Data Collection

Researchers commenced data collection in spring 1988 by privately interviewing youth and their primary caretakers. The interviews were repeated every 6 months. (Each 6-month period is referred to as a "wave.") This report uses interview data collected in waves two through eight. At wave two, the subjects were in the fall semester of the eighth or ninth grade and were 14 years old, on average. At wave eight, they were in the fall semester of 11th or 12th grade and were 17 years old. In addition to data collected in face-to-face interviews, data were collected from the Rochester public schools, Police Department, Department of Social Services, and other agencies that had contact with the subjects.

## Assessment of Maltreatment

Data on maltreatment were obtained from Child Protective Services records of the Monroe County Department of Social Services, the county of residence for all subjects at the start of the project. For each subject, the researchers recorded any instance of substantiated abuse or maltreatment from birth through 1992. For the purposes of this analysis, the term "child" refers to someone who has not had his or her 12th birthday. The researchers established this cutoff so they could more accurately assess the impact of maltreatment during childhood on subsequent adolescent behavioral out-

comes. This analysis does not explore the separate but related topic of adolescent maltreatment (Garbarino, 1989), which may have continued from childhood or begun after age 12.

The term "child maltreatment" encompasses a fairly broad spectrum of abuse and neglect scenarios. For the purposes of this analysis, maltreatment included seven subtypes: physical abuse, sexual abuse, physical neglect, lack of supervision, emotional maltreatment, educational maltreatment, and moral-legal maltreatment. The researchers utilized the maltreatment classification and 5-point severity rating scales developed by Cicchetti and Barnett (1991) to code the maltreatment case records. Table 1 contains definitions of maltreatment subtypes and examples from the severity rating scales of the least and most serious types of cases (Barnett et al., 1993).

The researchers recognize that reliance on substantiated records of maltreatment is likely to produce conservative estimates of the prevalence and frequency of this often undetected or unreported type of victimization. Furthermore, although most of the sample youth had resided in Monroe County since birth, a small proportion had not. The researchers also expect there may be a few child maltreatment victims lacking Monroe County records who have been inaccurately categorized as nonmaltreated in this sample. Any bias that results from this misclassification would be quite small and would work against the study hypothesis. That is, it would make it harder, not easier, to find that early maltreatment is related to later delinquency.

## Prevalence of Child Maltreatment

Of the total sample of 1,000 youth, 14% have a child maltreatment record and 86% do not. These subjects were maltreated in a total of 219 separate incidents (an average of 1.5 incidents per maltreated subject). This rate is somewhat higher than prevalence rates reported in national data (U.S. Department of Health and Human Services, National Center on Child Abuse and Neglect, 1997) and is probably related to the urban population of youth in the sample.

The 219 separate incidents of maltreatment constitute a large enough number to investigate the adolescent outcomes of

maltreatment as a whole. However, the researchers did not attempt to separate the outcomes of the seven specific subtypes of maltreatment, as the number of incidents in each subtype was insufficient for meaningful statistical analysis. Furthermore, many of the victims were subjected to more than one type of maltreatment.

Recent research provides some indications that the overall experience of maltreatment, rather than the specific subtype, is what has the greatest impact on adolescent outcomes. For instance, in Widom's (1996) study of a larger sample of 1,575 court cases of child maltreatment, the experience of neglect appeared to be as damaging as physical abuse. Child victims of neglect were almost as likely as physically abused victims to be arrested for violent crimes as teenagers and young adults. Both neglect and abuse victims were more likely to be arrested for and involved in violent crimes than members of the matched nonmaltreated control group.

Table 2 presents the prevalence of maltreatment for major demographic subgroups in the Rochester study. There are no statistically significant differences in the prevalence of maltreatment by sex or race. Unfortunately, the total number of maltreatment incidents was not large enough to allow for sex-by-race comparisons. (Throughout this discussion "statistical significance" is defined as the probability that the observed relationship would occur strictly by chance less than 5% of the time (probability, or  $p < .05$ .) There are, however, significant differences by social class and family structure. Twenty percent of youth reared in disadvantaged families—those in which the principal wage earner was unemployed, welfare was received, or income was below the poverty level—were victims of maltreatment, while only 8% of the nondisadvantaged respondents were maltreated. The largest difference observed is in family structure. Only 3% of the boys and girls who resided with both biological parents at the beginning of the Rochester study (spring 1988) had a history of maltreatment, but 19% of those in other family situations had been maltreated.

This demographic information serves as a backdrop for examining the central issue of this analysis—the relationship between earlier maltreatment and the development of adolescent problem behaviors.

**Table 1: Defining Child Maltreatment and Rating Its Severity**

Subtype of Maltreatment	Brief Definition	Examples of Least and Most Severe Cases
Physical Abuse	A caregiver inflicts a physical injury upon a child by other than accidental means.	<i>Least</i> —Spanking results in minor bruises on arm. <i>Most</i> —Injuries require hospitalization, cause permanent disfigurement, or lead to a fatality.
Sexual Abuse	Any sexual contact or attempt at sexual contact that occurs between a caretaker or responsible adult and a child for the purposes of the caretaker’s sexual gratification or financial benefit.	<i>Least</i> —A child is exposed to pornographic materials. <i>Most</i> —A caretaker uses force to make a child engage in sexual relations or prostitution.
Physical Neglect	A caretaker fails to exercise a minimum degree of care in meeting a child’s physical needs.	<i>Least</i> —Food is not available for regular meals, clothing is too small, child is not kept clean. <i>Most</i> —A child suffers from severe malnutrition or severe dehydration due to gross inattention to his or her medical needs.
Lack of Supervision	A caretaker does not take adequate precautions (given a child’s particular emotional and developmental needs) to ensure his or her safety in and out of the home.	<i>Least</i> —An 8-year-old is left alone for short periods of time (i.e., less than 3 hours) with no immediate source of danger in the environment. <i>Most</i> —A child is placed in a life-threatening situation without adequate supervision.
Emotional Maltreatment	Persistent or extreme thwarting of a child’s basic emotional needs (such as the need to feel safe and accepted).	<i>Least</i> —A caretaker often belittles or ridicules a child. <i>Most</i> —A caretaker uses extremely restrictive methods to bind a child or places a child in close confinement such as a closet or trunk for 2 or more hours.
Educational Maltreatment	A caretaker fails to ensure that a child receives adequate education.	<i>Least</i> —A caretaker allows a child to miss school up to 15% of the time (when he or she is not ill and there is no family emergency). <i>Most</i> —A caretaker does not enroll a child in school or provide any educational instruction.
Moral-Legal Maltreatment	A caretaker exposes or involves a child in illegal or other activities that may foster delinquency or antisocial behavior.	<i>Least</i> —A child is permitted to be present for adult activities, such as drunken parties. <i>Most</i> —A caretaker causes a child to participate in felonies such as armed robbery.

Source: Adapted from Barnett et al. (1993).

<b>Table 2: Prevalence of Reported Maltreatment Prior to Age 12 by Demographic Characteristics</b>		
	<b>Reported Maltreatment</b>	<b>No Maltreatment</b>
<b>Total Sample</b>	14%	86%
<b>Demographic Characteristics</b>		
<b>Sex</b>		
Male	13%	87%
Female	14%	86%
<b>Race</b>		
White	16%	84%
African American	14%	86%
Hispanic	9%	91%
<b>Disadvantaged Family</b>		
Yes	20%	80%
No	8%	92%
<b>Family Structure</b>		
Two Biological Parents	3%	97%
Other Family Structures	19%	81%

## Maltreatment and Delinquency

It is commonly observed in research literature that “lives containing delinquent behavior often seem to contain maltreatment as well” (Garbarino and Plantz, 1985). Most research on the relationship of maltreatment to delinquency either relied exclusively on official records to measure delinquency or used retrospective designs requiring subjects to recall their juvenile misdeeds. Results have varied regarding whether a maltreated individual is more likely to engage in specific categories of delinquency such as minor, serious, or violent crimes.

## Measurement of Delinquency

The Rochester researchers distinguished their study from previous investigations of the relationship of maltreatment to delinquency by utilizing a general population sample with measurement of official records of delinquency (both “current” self-reported offenses). (See Smith and Thornberry (1995) for a detailed presentation of these results.)

The official measure of delinquency is based on the number of times each subject had an official contact with police as a juvenile or an arrest as an adult. Official contacts include cases in which the juvenile was “warned and released” by the police and an official record of the event was maintained and cases in which the juvenile was referred to family court. Data were collected from the files of the Rochester Police Department, which maintains a registry of all such contacts from all police agencies in Monroe County. The official data cover the time from the subject’s first official contact through 1992, when the subjects averaged 17 years of age.

Self-reported delinquency was assessed in the face-to-face interviews. At each of seven interview waves, the subjects were asked to report their delinquent activities for the previous 6 months (the period between interviews). Prior to analyzing these data, the researchers screened out any reports of trivial actions that would be ignored by local law enforcement officials. In this analysis, the researchers examine responses by youth to questions that were assigned to five categories of delinquency: minor, moder-

ate, serious, violent, and general. Table 3 lists the actual interview questions. In the table, the minor, moderate, and serious items are mutually exclusive; the general delinquency index includes all of these items and is, therefore, not included in the table. The violent offenses are also categorized in either the moderate or the serious index.

## Findings Regarding the Prevalence of Delinquency

Based upon examination of official police records and self-reports, maltreated children in this sample were significantly more likely to become involved in delinquency at some time. Figure 1 displays the relationship between prevalence rates for child maltreatment and delinquency. While 32% of the nonmaltreated youth have official records of delinquency, a history of maltreatment raises this figure to 45%. Maltreated youth also give higher self-reports of having been involved (at any time) in each delinquency category: minor, moderate, serious, violent, and general.

The researchers further analyzed the prevalence data, controlling for the following variables generally considered to influence delinquency rates: the subject’s sex, race/ethnicity, family disadvantage, family structure, and mobility. In other words, the researchers wanted to see if the effect of maltreatment on delinquency outcomes was spurious and would be “washed out” if the maltreated subjects were comparable to the nonmaltreated subjects along these variables. With these variables held constant, maltreated youth still displayed significantly higher prevalence rates of delinquency in terms of three measures: official records, self-reported moderate delinquency, and self-reported violence.

## Findings Regarding the Frequency of Delinquency

Do maltreated subjects commit delinquent acts more often than nonmaltreated subjects? In all of the measured categories—that is, official records and self-reports (minor, moderate, serious, violent, and general)—maltreated subjects engaged in delinquent activities significantly more frequently.

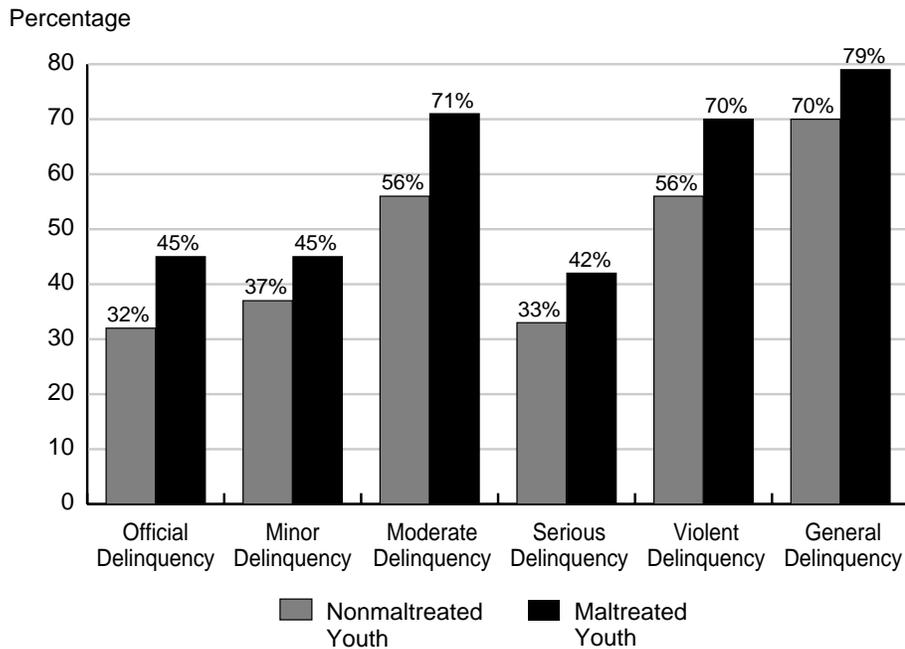
Again, the researchers controlled for sex, race/ethnicity, family disadvantage, family structure, and mobility. Even with these controls in place, maltreated subjects displayed significantly higher frequencies

**Table 3: Interview Items for Self-Reported Delinquency Indexes\***

Since we interviewed you last time, have you . . .	Minor Delinquency	Moderate Delinquency	Serious Delinquency	Violent Delinquency
1. Carried a hidden weapon?				
2. Been loud or rowdy in a public place where someone complained and you got in trouble?				
3. Been drunk in a public place?				
4. Damaged, destroyed, marked up, or tagged somebody else's property on purpose?				
5. Set fire or tried to set fire to a house, building, or car on purpose?				
6. Gone into or tried to go into a building to steal or damage something?				
7. Tried to steal or actually stolen money or things worth \$5 or less?				
8. Tried to steal or actually stolen money or things worth \$5-\$50?				
9. Tried to steal or actually stolen money or things worth \$50-\$100?				
10. Tried to steal or actually stolen money or things worth more than \$100?				
11. Tried to buy or sell things that were stolen?				
12. Taken someone else's car or motorcycle for a ride without the owner's permission?				
13. Stolen or tried to steal a car or other motor vehicle?				
14. Forged a check or used fake money to pay for something?				
15. Used or tried to use a credit card, bank card, or automatic teller card without permission?				
16. Tried to cheat someone by selling them something that was not what you said it was or that was worthless?				
17. Attacked someone with a weapon or with the idea of seriously hurting or killing them?				
18. Hit someone with the idea of hurting them?				
19. Been involved in gang or posse fights?				
20. Thrown objects such as rocks or bottles at people?				
21. Used a weapon or force to make someone give you money or things?				
22. Made obscene phone calls?				
23. Been paid for having sexual relations with someone?				
24. Physically hurt or threatened to hurt someone to get them to have sex with you?				
25. Sold marijuana/reefer/pot?				
26. Sold hard drugs such as crack, heroin, cocaine, or LSD/acid?				
<b>Total Number of Items</b>	<b>2</b>	<b>9</b>	<b>8</b>	<b>6</b>

\* This table lists the actual interview questions. The minor, moderate, and serious items are mutually exclusive; all 26 items are included in the general delinquency index and, therefore, it is not shown.

**Figure 1: Relationship Between Prevalence of Child Maltreatment and Delinquency**



of delinquency in the following four measures: official records and moderate, serious, and violent self-reported delinquency.

With the control variables held constant, the researchers concluded that childhood maltreatment is a significant and nonspurious risk factor for officially recognized delinquency, violent self-reported delinquency, and moderate self-reported delinquency. Maltreatment is inconsistently related to serious delinquency, being a significant predictor for the frequency but not for the prevalence of serious delinquency. Finally, childhood maltreatment is not a significant risk factor for minor delinquency or general delinquency, the overall index containing the full range of delinquency. In short, maltreatment appears to be a risk factor for the more serious, but not the less serious, forms of delinquency.

### Variations in the Maltreatment Experience and Delinquency Outcomes

To this point, maltreatment has been measured as a simple dichotomy, comparing adolescents who had official records of maltreatment as children with those who did not. This measure ignores the fact that maltreatment can vary along such dimensions as frequency, severity,

duration, and type. The researchers hypothesize that children exposed to more extreme maltreatment will have higher rates of delinquency than children exposed to less extreme maltreatment. Therefore, whatever causal mechanisms link early maltreatment to later delinquency ought to be strongest as the frequency, severity, duration, and variety of maltreatment increase.

To test this hypothesis, the researchers identified the top third of their maltreated sample along each of the following four dimensions:

- ◆ Number of maltreatment incidents.
- ◆ Severity of all incidents.
- ◆ Duration of all incidents.
- ◆ Number of subtypes of maltreatment across all incidents.

These more-maltreated subjects were then compared with the remaining less-maltreated subjects and the nonmaltreated subjects.

The strongest support for the hypothesis was found in analyzing official records of the frequency of delinquency outcomes. For each of the four dimensions cited above, there were significant increases in officially recorded delinquency when comparing the nonmaltreated sub-

jects with the less-maltreated subjects and when comparing the less-maltreated subjects with the more-maltreated subjects. The more-maltreated subjects were arrested about twice as often as the less-maltreated subjects along each of the four dimensions.

In terms of frequency of self-reported serious and violent crime, the researchers observed incremental increases from nonmaltreated subjects to less-maltreated subjects to more-maltreated subjects across all four dimensions of maltreatment: frequency, severity, duration, and variety. Significant increases appear between the nonmaltreated subjects and more-maltreated subjects. However, the distinctions between the less-maltreated and more-maltreated subjects are fairly modest in terms of self-reported serious and violent crime.

Overall, the Rochester study data confirm the general finding that there is a relationship between childhood maltreatment and later delinquency. Furthermore, this analysis offers some support for the strength of the relationship between childhood maltreatment and later serious or violent delinquency, which increases as the seriousness of the maltreatment increases.

### Maltreatment and Teen Pregnancy

Vobejda (1996) reports that, according to the National Center for Health Statistics, births to teenage mothers increased in every State from the mid-1980's until 1990. Beginning in 1991, rates have dropped in 46 States, with national birth rates for teenage mothers declining for 4 straight years. The number of births per 1,000 girls ages 15 to 19 has fallen from 62 in 1991 to 57 in 1995. Nevertheless, birth rates for teenage mothers remain much higher in the United States than in other industrialized nations.

Experiencing pregnancy as a teenager has serious and often deleterious consequences on the lives of both the young mother and her baby. Teenage mothers and fathers are usually ill equipped to provide effective parenting and often draw heavily upon the resources of their extended families and communities. For teenage parents raised in dysfunctional or abusive families, parenting problems may be even more evident, and family support limited. Therefore, it is important to

identify risk factors associated with teen pregnancy.

Research on the effects of maltreatment on child development suggests a number of pathways through which maltreatment could heighten the risk for teen pregnancy (Smith, 1996a). Although studies following maltreated children have not generally found evidence linking maltreatment with subsequent teen pregnancies, a small body of retrospective research with pregnant girls suggests that a high proportion of them have histories of abuse.

Most researchers have focused on investigating the link between childhood sexual abuse and teen pregnancy, hypothesizing that the trauma of this particular type of maltreatment may lead to sexual preoccupation, precocious sexual behavior, and sexual offending. However, many victims of childhood maltreatment are exposed to multiple types of maltreatment. This implies that researchers should not focus solely on sexual abuse but should examine the broad range of maltreatment experiences, resulting developmental disruptions, and possible links to teen pregnancy.

The few studies directly exploring the relationship between childhood maltreatment and subsequent teen pregnancy all have drawn samples on the basis of maltreatment or pregnancy. The Rochester study provides a unique opportunity to examine the link between childhood maltreatment and teen pregnancy among a general population sample.

### Measurement of Teen Pregnancy

Teen pregnancy, for the purposes of this discussion, refers to subjects' self-reports of having been pregnant at any time. If female subjects answered positively in any interview in waves five (when the average age was 15.3 years) through nine (when the average age was 17.3 years), the female subjects were classified as having been pregnant. Male subjects were asked if they had ever made a female pregnant. Thus, in this presentation, teen pregnancy involves subjects' reports of pregnancies up to the average age of 17.3 years (high school age).

### Findings Regarding the Prevalence of Teen Pregnancy

For the purposes of this analysis, males and females were separated.

Maltreated boys did not report higher rates of impregnating girls than non-maltreated boys. Precursors of teen fatherhood merit further inquiry, as this experience is likely to have negative consequences in the lives of the fathers and their children. Researchers in the Rochester study are examining a broader range of factors that appear to increase the risk of adolescent fatherhood (Smith, 1996b; Thornberry et al., forthcoming).

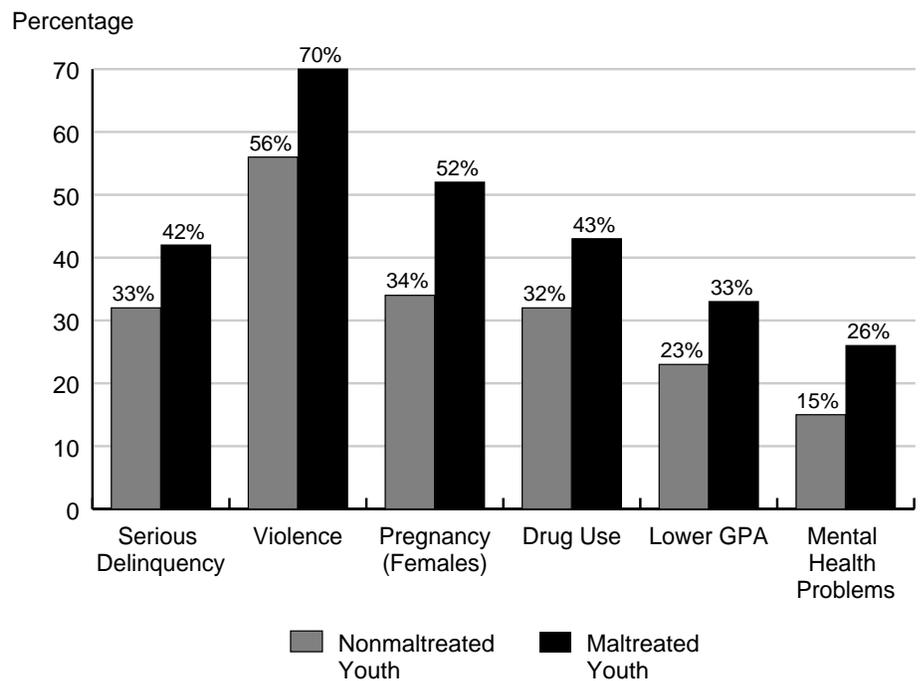
The balance of this discussion focuses on the findings regarding pregnancy outcomes among the female subjects. Rates of teen pregnancy are significantly higher among girls with a history of childhood maltreatment. The prevalence of pregnancy among maltreated girls is 52% compared with 34% among nonmaltreated girls. The risk of becoming pregnant is therefore approximately 50% higher among high school girls who experience maltreatment during their childhood. These prevalence rates are shown in figure 2 (which also highlights key findings regarding self-reported serious delinquency, violence, drug use, lower grade point averages (GPA's), and mental health problems).

### A Closer Look at Maltreatment Subtypes and Pregnancy

It is interesting to note several key findings from the extended analysis of this topic conducted by Smith (1996a) utilizing Rochester study data. Approximately one-half of the maltreated females (21 out of 40) had been exposed to more than one type of maltreatment. In this general population sample, meaningful comparisons of pregnancy outcomes could not be conducted across maltreatment subtypes. There were simply too few "single-type" maltreatment cases. For example, among the five sexually abused female subjects, four became pregnant as teenagers; however, three were also exposed to other forms of maltreatment. Therefore, it cannot be determined from these data whether it is sexual abuse or other forms of abuse that increase the risk of pregnancy in female adolescents.

Girls exposed to multiple types of maltreatment are significantly more likely to become pregnant than girls who experienced one type of maltreatment. In addition to maltreatment per se, it may be the range of developmental domains affected

**Figure 2: Relationship Between Prevalence of Child Maltreatment and Various Negative Outcomes During Adolescence**



by maltreatment that is associated with pregnancy risk. Fortunately, not all maltreated girls report pregnancies. Maltreated teenage girls who become pregnant are more likely to display a constellation of risk factors in early adolescence, including early substance use, early sexual intimacy, and poor academic performance.

## Maltreatment and Other Problem Behaviors

The most complete analysis of the consequences of maltreatment using the Rochester data has been conducted with delinquency and teen pregnancy as the outcome variables. As discussed above, the analyses examine different forms of delinquency, evaluate the role of confounding variables, and address different dimensions of maltreatment.

Recently, the researchers on the Rochester project have begun to explore the relationship of childhood maltreatment to other adolescent outcome variables, but not yet in as much detail as for the delinquency and pregnancy analyses. For these other outcomes, more complete multivariate models will be tested in the future. Following are highlights of the analyses conducted to date on the relationship of maltreatment to drug use, low academic achievement, and mental health problems.

## Maltreatment and Drug Use

The catalysts for the onset of drug abuse in adolescence are many. Teenage drug users frequently cite the following current problems in their lives: peer pressure to use drugs, difficulties in school, rebellion against adult authority, lack of impulse control, desire for immediate gratification, and low self-esteem. When researchers (Dembo et al., 1992) interviewed teenage drug users about earlier childhood experiences, the youth frequently reported histories of physical child abuse and sexual victimization. Dembo concluded that developmental damage caused by child maltreatment increases the likelihood of adolescent drug use and other problem behaviors.

A number of explanations have been offered as to why a maltreated child would use drugs in subsequent years (Ireland and Widom, 1994). For instance,

the maltreated victims may seek escape from the harsh realities of their lives, even after the abuse has ended. Those feeling socially isolated might be willing to use drugs in order to be part of a group. Other victims may seek to alleviate suffering from low self-esteem or mental disorders by self-medicating.

Although reasonable rationales have been put forth as to why maltreatment victims would use drugs, the research on this issue is inconclusive. When Ireland and Widom (1994) reviewed the literature, they found both ambiguous and conflicting findings. Research designs typically are cross-sectional, rather than longitudinal, so it is difficult to draw any causal inferences. There are few adequate control or comparison groups. Many studies have focused on adult female samples, and there is evidence that gender may affect the drug-use outcomes of child maltreatment.

The impact of child maltreatment on drug use may not be fully realized until the adult years. In Ireland and Widom's (1994) study, after controlling for relevant demographic variables, child maltreatment was a significant predictor of adult, but not juvenile, arrests for alcohol and/or other drug-related offenses.

The Rochester longitudinal design provides an excellent opportunity to

measure self-reported drug use among a general population sample of adolescents. The researchers can now examine whether childhood maltreatment predicts adolescent drug use. As the subjects age, the researchers will be able to assess whether the drug-related consequences of child maltreatment extend into or emerge during adulthood.

## Measurement of Drug Use

The Rochester study conducted face-to-face interviews to assess drug use. At each of seven interview waves, the subjects were asked to report their drug use during the previous 6 months. Table 4 provides the 10 interview items for drug use. The drug-use index does not include alcohol or cigarette use.

## Findings Regarding the Prevalence of Drug Use

Youth with a history of childhood maltreatment are more likely to use drugs than nonmaltreated subjects. Based upon self-reports, 43% of the Rochester study adolescents who were maltreated as children have used drugs, compared with 32% of those who were not maltreated. Thus, the risk of using drugs is about one-third higher among youth who have a maltreatment history. These drug-use rates are displayed in figure 2.

**Table 4: Interview Items for Self-Reported Drug Use**

**Since we interviewed you last time, have you . . .**

1. Used marijuana/reefer/pot?
2. Inhaled things (other than cigarettes) like glue to get high?
3. Tried LSD/acid/cubes?
4. Tried cocaine/coke/snow (other than crack)?
5. Tried crack?
6. Tried heroin/smack?
7. Tried angel dust/PCP?
8. Tried tranquilizers such as ludes (Quaaludes) or Valium?
9. Tried downers such as yellow jackets or red or blue devils?
10. Tried uppers/speed such as bennies or black beauties?

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## Maltreatment and Low Academic Achievement

Does the childhood experience of maltreatment increase the likelihood of academic difficulties and failure during middle school? Some research has been conducted on adolescent learning problems, school failure, and truancy among abused populations (Malinosky-Rummell and Hansen, 1993). Several studies have noted that maltreated children and adolescents exhibit intellectual and academic delays and lower scores on tests of intelligence. Considerably more is known about the immediate childhood consequences of maltreatment on academic success than about the long-term adolescent and adult outcomes.

Because the experience of maltreatment can delay or disrupt normal child development, research literature often emphasizes that maltreated children exhibit problems in concentration and achievement in school. Researchers (Erickson et al., 1989) examined the kindergarten experience of maltreated and nonmaltreated children. Maltreated children displayed a host of difficulties in adapting to the social environment and task demands of school. For instance, children who were maltreated were significantly more likely than their nonmaltreated peers to need special assistance, create classroom disturbances, perform poorly, and comprehend less and to be inattentive, overactive, unpopular, and aggressive.

Do such negative outcomes continue to impede academic success in adolescent years? Due to the sequential nature of the academic learning process, it is likely that maltreated children who never mastered basic skills would have difficulty applying these skills to the more complex tasks found in middle school curriculums. Furthermore, adolescents with a history of maltreatment might have less personal capacity to meet social challenges in the middle school setting.

There are indications (Smith, 1996a) that girls with histories of child maltreatment are less likely to become pregnant if they aspire to and achieve academic success. Other researchers (Zingraff et al., 1994) have noted that adequate school performance appears to substantially reduce the risk of delinquency among maltreated children. Performing well at school may indeed be key to adolescent resilience following childhood maltreatment.

## Measurement of Academic Achievement

To assess how well subjects performed at school, researchers computed their cumulative GPA's from 1986 to 1989 Rochester City School District records. In 1989, the mean age was 14.4 years, and subjects were in the spring semester of either the eighth or ninth grade. Therefore, the cumulative GPA is basically a measure of a student's grades during middle or junior high school. In this analysis, a GPA of less than 2.0 (less than "C") is categorized as low.

## Findings Regarding Academic Achievement

The Rochester study shows that school achievement by maltreated children is significantly lower than that of youth who do not have a history of childhood maltreatment. Poor grades are evident among 33% of the maltreated group, compared with 23% in the group who were not maltreated. The prevalence rates for low GPA's are presented in figure 2.

According to the study, then, students performing poorly in middle school are considered at increased risk for continued academic failure in high school, low educational aspirations, premature school dropout, and reduced educational and economic opportunities. The Rochester researchers plan additional data collection and analysis to compare the high school experiences of maltreated youth with those of nonmaltreated youth.

## Maltreatment and Mental Health Problems

In considering the possible links between maltreatment and subsequent mental health problems, it is useful to employ a developmental approach to psychopathology (Cicchetti, 1989). Psychopathology occurs when there is a lack of integration of the various social, emotional, and cognitive competencies that underlie healthy or normal adaptation at a particular level of child and adolescent development. Interruption of healthy childhood development by maltreatment may ultimately lead to much larger disturbances at subsequent developmental stages. The timing, chronicity, and severity of the maltreatment are critical factors in assessing their potential impact on an individual child's psychosocial development.

Healthy development requires nurturing, encouragement, supervision, and

support by parents or other primary caretakers. Obviously, a child traumatized by maltreatment, particularly chronic and severe maltreatment within the family setting, suffers (at minimum) a temporary setback in his or her positive psychological development. More is known about short-term consequences than long-term consequences of maltreatment, particularly in instances where Child Protective Services are notified and mental health assessments are conducted.

Although each child responds differently to life circumstances and maltreatment experiences, child victims often have a wide range of maladaptive emotional and interpersonal symptoms in common. The negative attributes associated with this victimized population include anxiety, inattentiveness, impulsiveness, anger, aggression, passivity, withdrawal, depression, self-destructiveness, obsessive-compulsive behavior, and unpopularity (Erickson et al., 1989). Such child victims are further described as lacking self-confidence, empathy, and perhaps most telling, joy.

What is known about the long-term consequences of child maltreatment for victims in adolescence? Maltreatment has been linked to a number of mental health problems among adolescents, including increased self-destructive and suicidal behavior, fewer interpersonal competencies, and more mood disorders, such as anxiety and depression (Malinosky-Rummell and Hansen, 1993; Downs, 1993). For at least some victims, the impact of childhood maltreatment extends beyond adolescence, as documented by both researchers and clinicians working with adults with alcoholism and mental illness.

## Measurement of Mental Health Problems

In the Rochester study, parents were asked to assess whether their children exhibited certain emotional and behavioral responses symptomatic of mental illness. The Rochester study investigators collaborated with their colleagues at the Pittsburgh Causes and Correlates of Delinquency study site to develop a shortened version of the Achenbach Child Behavior Checklist without compromising the reliability and validity of the longer, 118-item form. The abbreviated checklist was advantageous in terms of reducing longitudinal survey costs, interview time, and subject attrition (Lizotte et al., 1992). The shortened behavioral

checklist adopted for use at Rochester includes seven scales that fall under one of two broad dimensions:

(1) Externalizing syndrome—aggressive, delinquent, hostile/withdrawn, and hyperactive.

(2) Internalizing syndrome—immature, somatic (physical) complaints, and uncommunicative.

As shown in table 5, quite a few of the behaviors included in this checklist are not particularly uncommon among adolescents. What is of clinical concern is not an occasional positive response but rather a significant loading on a particular scale or syndrome. The checklist is typically used as a diagnostic tool to identify subjects who fall at the behavioral extremes on these scales. For the purposes of this analysis, adolescents who score in the top 10% on either the externalizing or internalizing syndrome scale are counted as having problems suggesting psychopathology and/or behavioral disturbances.

## Findings Regarding Mental Health Problems

Mental health problems that affect teenagers include externalized conduct problems such as aggressive, hostile, and hyperactive behavior and internalized problems such as social isolation, anxiety, and physical distress. One might expect such symptoms to be linked with prior maltreatment, as indeed figure 2 suggests. Of subjects whose parents report the highest number of either externalizing or internalizing problems, 15% of nonmaltreated teenagers are in this group, compared with 26% of the maltreated teens.

## Maltreatment and Multiple Problem Behaviors

Thus far, this Bulletin has attempted to sort out or isolate specific problem areas in the lives of adolescents. Traditionally, this is the way research on adolescent problems has been conducted. It is now time to consider the process of youth development from a holistic perspective. Some teenagers have multiple and overlapping problems that increase the likelihood that they will not be able to make successful transitions to adult roles and responsibilities.

Youth who become involved in the juvenile justice system often carry more

baggage than just their presenting offenses. Researchers conducted a longitudinal examination of the troubled lifestyles of juveniles originally held in a Florida detention facility (Dembo et al., 1991). Among this high-risk sample, multiple problems were the norm, rather than the exception. The majority of the detained youth came from physically abusive homes, engaged in delinquency and drug abuse, and experienced academic difficulties or school failure.

## Assessment of Multiple Problem Behaviors

This analysis looks at whether childhood maltreatment is a risk factor for having multiple problems during adolescence and utilizes measurement procedures previously described for the following five categories of negative outcomes:

- ◆ Serious delinquency.
- ◆ Teen pregnancy.
- ◆ Drug use.
- ◆ Low academic achievement.
- ◆ Mental health problems.

## Findings Regarding Multiple Problem Behaviors

Figure 3 illustrates the proportion of maltreated youth and nonmaltreated youth with no negative outcomes, one to two negative outcomes, or three or more negative outcomes.

First, the figure shows that a lower proportion of maltreated youth than nonmaltreated youth have no problem outcomes. Still, it is somewhat encouraging to see that more than one-fourth (28%) of youth with histories of childhood maltreatment are not presenting any negative adolescent outcomes, as measured in this analysis. In contrast, 40% of the nonmaltreated youth fall into this category; they are more likely to progress through adolescence unscathed by serious problems.

Next, maltreated youth (40%) and nonmaltreated youth (42%) are almost equally likely to have only one or two problems. This suggests that many youngsters, not just those who have official records of childhood maltreatment, have a problem in some area of their lives.

Finally, the figure depicts the group of most concern—youth experiencing three or more of the five problem areas examined here. Maltreatment is a significant

risk factor for multiple problem outcomes. Of the maltreated youth, 32% have three or more negative outcomes, compared with only 18% in the nonmaltreated group. The risk of multiple negative outcomes increases by nearly 80% among the maltreated subjects.

## Summary and Discussion

In the past few decades, increasing attention has been paid to the phenomenon of child maltreatment and its long-term impact on youth development. A growing body of research suggests that being maltreated as a child increases the chances of a variety of developmental problems during childhood, adolescence, and adulthood. This presentation of the Rochester study data has examined the consequences of childhood maltreatment in terms of subsequent adolescent problem behaviors.

Overall, these results indicate that having a history of childhood maltreatment serious enough to warrant official intervention by Child Protective Services increases the likelihood of problems during adolescent development. Specifically, subjects with a history of maltreatment were more likely to engage in serious and violent delinquency, use drugs, perform poorly in school, display symptoms of mental illness, and (for girls) become pregnant. Childhood maltreatment is associated with an increased risk of at least 25% for each of these investigated outcomes. Any one of these problems jeopardizes a teenager's potential for making a successful transition to adulthood.

Maltreatment diminishes the likelihood that children will come through adolescence with no serious problems. Moreover, a history of childhood maltreatment nearly doubles the risk that teenagers will experience multiple problems during adolescence.

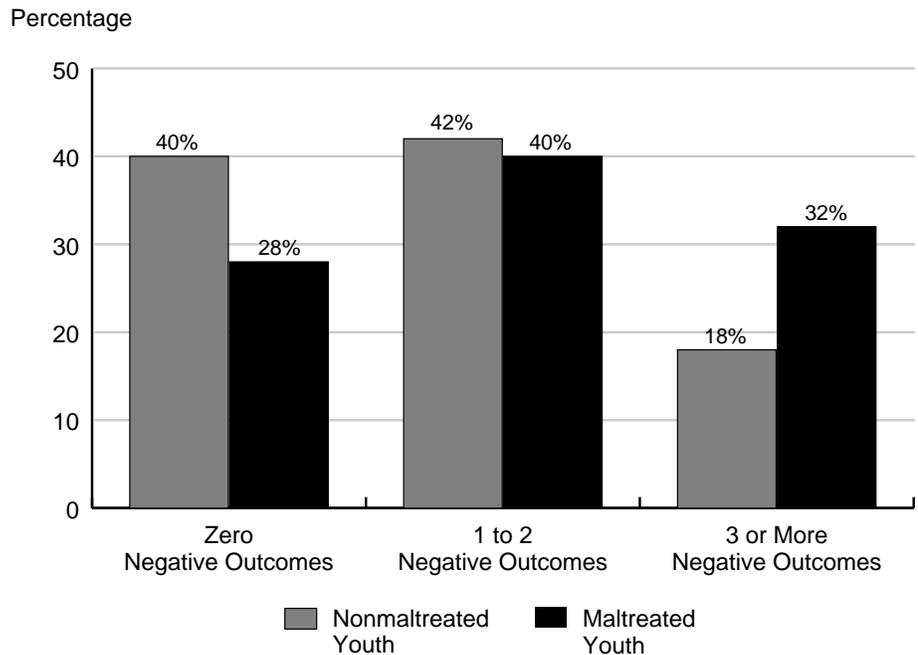
In view of the link between maltreatment and various problem outcomes, it is critical for practitioners and researchers to consider youth holistically, across a range of areas in which maltreatment may be manifested developmentally. This is particularly critical for youth who are already experiencing multiple problems. Implementation of a holistic intervention approach will necessitate a high level of coordination among service systems, targeting maltreated children and families

**Table 5: Assessment of Mental Health Problems: Rochester Youth Development Study's Shortened Child Behavior Checklist**

Parental Assessment of the Following Child Behaviors:	Externalizing Scales				Internalizing Scales		
	Aggressive	Delinquent	Hostile/Withdrawn	Hyperactive	Immature	Somatic Complaints	Uncommunicative
Acts too young							
Can't concentrate							
Is hyperactive							
Cries a lot							
Is cruel to animals							
Is cruel to others							
Demands attention							
Destroys others' things							
Is disobedient at school							
Has poor peer relations							
Feels persecuted							
Feels worthless							
Fights							
Has bad friends							
Is impulsive							
Lies, cheats							
Is disliked							
Is anxious							
Has pains							
Has headaches							
Has nausea							
School work is poor							
Prefers young kids							
Screams							
Is secretive							
Is self-conscious							
Is shy/timid							
Steals outside home							
Is stubborn							
Is moody							
Has temper tantrums							
Threatens people							
Is sad							
Whines							
Is withdrawn							
Worries							
<b>Total Number of Items</b>	<b>12</b>	<b>6</b>	<b>8</b>	<b>6</b>	<b>5</b>	<b>4</b>	<b>8</b>

Source: Adapted from Lizotte et al. (1992).

**Figure 3: Relationship Between Prevalence of Child Maltreatment and Number of Negative Outcomes During Adolescence**



and working with teenagers experiencing several related problems.

Obviously, not every possible adverse outcome was detected or assessed in this presentation of the Rochester data. For instance, alcohol use, school truancy, school dropout incidents, serious conflicts with parents, running away from home, and teenage parents' maltreatment of their own children were not included in this analysis of adolescent problem behaviors. Practitioners and researchers are urged to consider assessment of a full spectrum of adolescent consequences when dealing with victims of maltreatment.

The Rochester research strengthens and clarifies the empirical link between maltreatment and later problem behaviors among a general population sample of teens. However, these data do not imply that maltreatment leads directly or inevitably to later problems. An important theoretical and practical issue for future research is the identification of the pathways connecting early maltreatment to various adolescent problem behaviors.

Such pathways may be affected by intervening factors, including the emergence of protective factors and the provision of effective services. There is evidence of great variation in official responses to

maltreated children and their families, within and across jurisdictions, ranging from no service provision to placement of children outside the home (Lung and Daro, 1996). Information on service responses and other intervening factors is vital to the enhancement of efforts to accurately assess and effectively deal with maltreatment victims.

When researchers look for indicators that increase the risk of negative outcomes for maltreated youth, they should also identify protective factors or buffers that boost resiliency. As noted in the presentation of findings, 28% of maltreated subjects had no detected problem. This is the most encouraging finding: long-term developmental damage does not appear to be inevitable, as assessed across five problem areas. This finding is important. If the processes that lead to resilience can be identified, youth-serving professionals will be in a better position to develop effective intervention programs for other maltreated youth. In doing so, it will be important to consider factors such as the following:

- ◆ The developmental stage(s) at which victimization occurred.
- ◆ Variations in the frequency, severity, duration, and type of maltreatment.

- ◆ The relationship of the victim to the victimizer.
- ◆ The question of whether maltreatment was reported and, if so, the agency's response.
- ◆ The range of developmental areas affected by experiences of maltreatment.

With a better understanding of how maltreatment disrupts or derails healthy development in children and adolescents, those who work with young people will be far better positioned to help guide them onto productive pathways to the future. Practitioners providing such guidance represent fields such as Child Protective Services, education, pediatrics, juvenile justice, substance abuse treatment, and mental health. These practitioners are urged to foster two interdisciplinary approaches:

- ◆ A comprehensive assessment of troubled adolescents to determine if a history of maltreatment continues to negatively impact their lives.
- ◆ Individualized treatment of victimized youth to strengthen protective factors that help minimize their involvement in detrimental behaviors.

As maltreated children grow older, their status as victims may be overlooked as their behavior becomes more disruptive and problematic. There is evidence that some institutionalized delinquent and substance-abusing youth may have experienced considerable trauma in connection with early maltreatment (Dembo et al., 1992). When a child victim becomes a juvenile offender, legitimate concerns about protecting public safety and holding youth accountable for their behavior can easily overshadow issues of continued trauma from childhood maltreatment. As the Nation seeks to provide a balanced approach to juvenile justice, policymakers, practitioners, and the public must recognize that a punitive response such as secure detention or incarceration may place the youth at risk of further victimization. Punitive responses also may exacerbate previous emotional and developmental problems resulting from maltreatment. In this connection, it is particularly important to provide comprehensive assessment services to identify problem areas and develop responsive services for juveniles.

Practitioners attempting to design and implement effective individualized treatment plans must consider the context of

the victim's family and community environment. As noted by Briscoe (1995):

... if we understand that a child who is not nurtured is a child who never learns to trust, never develops empathy, never accepts responsibility for his behavior, and hurts others with impunity, then we will figure out a way to collaboratively make children and families a priority and support and empower them to take responsibility to rear healthy and productive children.

Traditionally, less emphasis has been placed on preventing child maltreatment than reporting and intervening in these cases. Rather than merely responding to reports of child maltreatment, Child Protective Services must also dedicate their resources to screening and developing resources (preferably those that begin during the prenatal period) for at-risk parents.

Educating all future parents, not just those at high risk for maltreating their children, should be a national priority. The United States currently places more emphasis on educating and licensing drivers than on preparing the next generation of parents. Few new parents are fully cognizant of just how much time and energy are involved in nurturing newborns. Many parents lack familiarity with the normal difficulties and stresses inherent in the care and supervision of developing infants, children, and adolescents. Parents should be advised that stress factors such as financial concerns, fatigue, alcohol consumption, and drug use can reduce their tolerance for normal infant and child behavior and increase their propensity to abuse their children. To prevent child maltreatment, parents need to understand not only the immediate but also the long-term consequences of their actions.

Furthermore, parents must recognize that their dependents need extensive adult supervision and care for the duration of their childhood. Social and work-related commitments do not relieve a parent of the responsibility to provide adequate nurturing and supervision. The task of raising a child is particularly difficult for parents who are isolated and lack an extended family or social network from which to draw support. Merely educating parents about their responsibilities will not suffice—communities must also develop adequate resources, such as afford-

able and accessible daycare, to support parents' efforts to provide the emotional, social, and physical support their children need.

Admittedly, some mothers and fathers will not be receptive to even the most intensive support and training, perhaps because of their own lack of maturity, mental illness, alcoholism, drug addiction, criminal involvement, or history of abuse. In certain instances, the best interests of a child would necessitate at least temporary removal from the biological parents, before the child's normal development is severely compromised by maltreatment.

While far more is known about the symptoms of maltreatment than ways to deal with it, research is providing more information about both. Ultimately, the degree to which the Nation safeguards children's futures will be measured in terms of how effectively society responds to abuse and neglect when it occurs and how committed the American people are to prevention in the first place.

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