Maltreatment: Long-Term Effects

In 1975, the Commonwealth of Virginia passed Child Abuse and Neglect Reporting legislation in response to concern about children and families. Nearly 35 years later, what have we learned about long-term effects of child maltreatment?

Readers should appreciate that maltreatment has a variety of effects. Not every child who has experienced maltreatment suffers short- or long-term effects. Maltreatment raises the risk of negative outcome but some victims do not experience long-term effects or can overcome negative effects. Resilience will be discussed later. For now, readers should remain cognizant that long-term effects of trauma or maltreatment should be conceptualized as a potential vulnerability to a negative outcome, not as a destiny or absolute outcome.

Why Might Childhood Maltreatment Cause Effects Throughout a Lifetime?

According to Shaw et al. (2004), the relationship between social support and health is evident throughout the life course. The concept of “life course trajectory” suggests that significant events and experiences at one point in the life span can shape the course of a person’s health in subsequent years. For example, if parents are unhelpful, unsupportive and/or unavailable, children may develop life-long patterns of withdrawal from and avoidance of others. Psychosocial impairments resulting from inadequate parental support persist into adulthood and negatively impact health and mental health. Conversely, supportive parents raise children who have self-worth and who learn effective self-control. High levels of self-esteem and personal control are associated with favorable mental health and physical health outcomes, longevity, recovery from illness, and avoidance of health risk behaviors.

Several mediating variables might explain why childhood victimization is associated with adverse health outcomes in adulthood (Arias, 2004). For example, depression could lead to self-medication using alcohol or other drugs. Damaged vigilance systems, pathological dissociative tendencies, or persistent Post-Traumatic Stress might impair judgment and result in the misinterpretation of danger cues (Noll, 2005).

Types of Studies

The most helpful types of studies are longitudinal studies, sometimes called prospective studies. This type of research identifies subjects and follows them throughout their life span. Longitudinal studies allow examination of relevant antecedents and then the later presumed consequences using the same subjects. There are fewer studies of this type. A second type of study is a retrospective study. This method asks adults to recall their childhood experiences and rate them. The subjects are asked about their present status as well. These studies are not as powerful as longitudinal studies. They compare rates of a particular behavior or diagnosis (suicidal thinking for example, or depression) in a group of previously maltreated subjects to matched controls who have not been maltreated.

A Word of Caution

There is a growing body of well-designed studies. However, research is not uniform and there are problems with many studies. Studies vary on how researchers define maltreatment and early childhood trauma. Maltreatment is not a single entity. Even the effects of a single type of maltreatment can vary along a continuum. Studies vary in rigor and use of comparison or control groups. Research, especially on sexual abuse, has concentrated upon outcomes of women or has not separated genders even though there is evidence that effects may differ by gender. Much more research is needed.

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research has used groups of college women rather than populations that are diverse in race, socio-economic status, and clinical status.

Do Different Types of Maltreatment Cause Different Long-term Risks?

There does not appear to be consensus on the question of the specific effects of particular types of maltreatment. Early studies such as Briere and Runtz (1988) hypothesized that different forms of maltreatment resulted in different effects, as well as different pathways to “a common postabuse symptom complex” (p. 337). Delineating what sort of maltreatment leads to which long-term sequelae and which long-term outcomes might be common to any maltreatment or childhood trauma has proved elusive.

Studies do not always separate subjects by types of maltreatment. Often a subject has experienced more than one type of maltreatment. Some subjects may have experienced additional adverse events such as: witnessing domestic violence; witnessing or being affected by neighborhood or gang violence; loss of a parent due to an accident or medical problem; or loss of a parent due to incarceration. Lack of uniform definitions of maltreatment further complicates comparisons.

What is the Effect of Experiencing Multiple Types of Maltreatment?

Experiencing multiple types of childhood victimization is common (see separate article on ACE studies; Richmond, 2009). As early as 1988 Briere and Runtz suggested that it may not be appropriate for research to attempt to focus on a single form of maltreatment, since other types of abuse are often present as well. Their early results supported an ecological perspective where the individual’s total experience of victimization is considered. Unfortunately, many researchers and clinicians have continued to specialize in one type of maltreatment. According to Richmond and others (Higgins & McCabe, 2000), such specialization may be short-sighted. Recent studies provide strong evidence that individuals exposed to one type of victimization are likely to have experienced other categories of maltreatment as well. Thus, studies assessing only a single category of victimization may over-estimate the impact of that category.

Experiencing multiple types of abuse increases the likelihood of adverse outcome (see separate article on ACE studies, this issue; Clemmons et al., 2003; Danielson et al., 2005; Dennis & Stevens, 2003; Herrera & McCloskey, 2003; Moeller, Bachmann, & Moeller, 1993; Richmond et al., 2009). Adverse outcomes include higher rates of substance use disorders, higher rates of somatic and health problems, and higher rates of risky behaviors. Those with multiple forms of maltreatment have significantly higher health care costs (Arias, 2004). According to a review by Clemmons et al. (2007), persons with histories of multiple types of maltreatment have shown both greater internalizing symptoms and greater externalizing symptoms, heightened anger, increased depression, more severe PTSD symptoms, and lower social competence than persons with only one maltreatment type.

What are the Effects of Longer-term Maltreatment?

There is evidence that some children are resilient when encountering stress such as maltreatment at a single point in time. Negative reactions and greater impact are more likely when abuse is ongoing and longer in duration (Beitchman et al., 1992; Briere & Runtz, 1988; Danielson et al., 2005; English et al., 2005). Greater frequency of abuse has also been linked to greater psychological difficulties in adulthood, according to a literature review by Clemmons et al. (2007). The greater the frequency of childhood abuses, the greater the likelihood of re-victimization as an adult (Moeller, Bachmann & Moeller, 1993, cited in Grella & Joshi, 2003). Chaffin and Hanson (2000) describe the subjective experience of prolonged repetitive trauma as fundamentally different than an acute episode of maltreatment. Rather than being abrupt and unexpected, chronic trauma comes to be anticipated and dreaded. Children living with ongoing abuse and maltreatment must cope with events that have not yet happened but are grimly awaited. Rather than wondering why the abuse happened, these children are wondering when it will happen again.

Thus, it is not surprising that Chaffin and Hanson found that ongoing abuse was associated with greater depression, somatic features, and wider-ranging symptoms. Chronic PTSD victims were found to have diminished interest in daily activities, restricted range of affect, dissociative features, dysphoria, and feelings that their lives would be “short and hard” (2000, p. 275).

Is Severity Important?

Severity of maltreatment may be important in long-term outcomes. For example, a cluster analysis (Higgins, 2004, cited in Clemmons et al., 2007) suggested that individuals with long-term adjustment problems were more accurately classified by the degree of severity of maltreatment rather than by the type of abuse. Clemmons et al. found that although both maltreatment type and severity of maltreatment were each associated with greater trauma symptomology, abuse severity was the stronger predictor of the two.

Fergusson, Horwood, and Lynskey (1996) with a sample of 18-year-olds found that greater severity of childhood sexual abuse related to women having more than 5 sexual partners, incidence of unprotected sexual intercourse, to having first intercourse before age 16, and to risk for re-victimization. Multiple forms of severe childhood abuse were associated with progressive risk for suicide attempts and the development of rapid cycling in adult bipolar patients (Garno, Goldberg, Ramirez, & Ritzler, 2005). Heightened suicidality was associated with more severe sexual and more severe physical abuse in a study of 486 undergraduates (Bryant & Range, 1997). Fergusson and Lynskey (1997) found consistent dose/response relationships between the extent of reported physical maltreatment during childhood and a wide range of outcomes including mental health status at age 18, substance abuse and dependence, juvenile offending and being a victim of violence.

Are there Gender Differences?

After a review of the literature (Purcell, Mallow, Dolezel, & Carballo-Dieguez, 2004), the authors concluded that empirical models of abuse based on data gathered from girls and women cannot simply be applied to boys and men. Harper and Arias (2004) found gender differences in affective responses to maltreatment and suggest that gender be considered in the design and development of therapeutic techniques for treatment and prevention for adult survivors.

According to Thompson, Kingree, and Desai (2004), there is little research on gender differences and the consequences of child abuse.
Studies that do exist have mixed findings, but generally suggest that females are more affected by child abuse than are males. Thompson et al. used data from 8,000 men and 8,000 women who were interviewed in the National Violence Against Women Survey. They found that men were more likely than women to have experienced physical abuse during childhood. While abuse had negative consequences for both genders, effects were more detrimental for females for both health and mental health problems. The researchers did not find gender differences in the effects of child abuse on subsequent substance use. Purcell et al. (2004) reviewed short- and long-term effects of sexual abuse on males. They found that literature on women shows that childhood sexual abuse is related to later victimization, but the literature on men is more equivocal.

**Can adverse outcomes be attributed to the maltreatment?**

Some authors have hypothesized or offered evidence that family characteristics, negative events, and family climate rather than maltreatment per se are responsible for adverse outcomes seen in victims of child abuse or neglect (Fromuth, 1986; Higgins & McCabe, 2000; Smith, 1996; Swanston et al., 2003; Wright et al., 2004). Those who advocate this position postulate that disturbed family relationships create a common risk for both maltreatment and for later adverse outcomes and note that maltreated children commonly face numerous types of adversity.

Horowitz, Widom, McLaughlin, and White (2001) maintain that childhood victimization must be considered in the context of other life stressors. They compared outcomes of 641 subjects with documented child abuse or neglect around 1970 to a matched control group of 510 persons. After controlling for stressful life events, childhood victimization had some impact but accounted for only a few mental health outcomes. They conclude that the impact of childhood victimization in studies without control groups is actually “likely to stem from a matrix of disadvantage that abused and neglected children suffer from, only part of which consists of the abuse and neglect itself” (p. 195).

Others have found that family background risk factors are associated with adverse outcome risk but maltreatment independently increases the risks for negative outcomes (Boney-McCoy & Finkelhor, 1996; Ferguson & Lynskey, 1997; Lansford et al., 2002; Messman-Moore & Brown, 2004; Mullen et al., 1996; Nelson et al., 2002; Widom, 1999).

There appears to be general agreement that childhood maltreatment occurs in the context of additional family background risk factors. Background factors that have been investigated include: parental substance abuse or addiction; conflict and fighting; presence of a step-parent; genetic vulnerability; environmental vulnerability through exposure to events and people; family adaptability; family cohesion; single parent families; young parents; parents lacking formal education; economic disadvantage; parents with records of criminal behavior; kidnapping attempts; physical assaults by peers; and general family adversity.

**Conceptual Frameworks**

There are several conceptual frameworks that researchers and others use to explain the long-term effects of maltreatment. Ireland, Smith, and Thornberry (2002) discuss the differences between a developmental psychopathology framework and a life-course perspective. Those who use a developmental framework maintain that maltreatment alters how victims process information. If harm at one developmental level is not ameliorated, then later developmental tasks are compromised. The resulting deficits then impact outcomes such as school achievement and relationships with others. The life-course perspective emphasizes variability and external influences and stresses that more immediate events can have greater impact than early experiences. Both viewpoints suggest that the timing of the maltreatment is an important consideration.

Another conceptual framework suggested for evaluating long-term outcome of maltreatment is an ecological perspective. This view tries to understand potential consequences of maltreatment within a broad array of factors that include family dynamics, poverty, neighborhood, and community factors (Grogan-Kaylor & Otis, 2003).

**General Findings**

Early researchers found multiple and debilitating long-term outcomes in samples of individuals who had experienced childhood maltreatment. Symptoms included somatic and health-related disabilities, behavioral problems, inter-relationship difficulties, and mental health problems including personality disorders and a history of suicidal ideation and actions (Briere & Runtz, 1988; Briere & Zaidi, 1989). There has been general agreement that experiencing maltreatment as a child raises the risk of later adverse outcomes. For example, in a national comorbidity survey (Molnar, Buka, & Kessler, 2001), significant associations were found between childhood sexual abuse and lifetime disorders for 14 of the 17 disorders investigated for women and for men who had been child victims there were significant associations for 5 of the 17 lifetime disorders.

Each type of maltreatment has shown links to negative long-term outcomes. For example, neglect has been linked to serious psychological problems in adulthood as well as to anxious attachment styles (Gauthier, Stollak, Messe, & Aronoff, 1996). In a sample of 181 women actively using illicit drugs, 60% reported a history of sexual abuse; 55% had been physically abused; 46% had experienced emotional abuse; 83% were emotionally neglected; and 60% were physically neglected (Medrano, Zule, Hatch, & Desmond, 1999).

**Special Education Services**

The relationship between maltreatment and the need for special education services is well-documented (see VCPN volumes 37 and 59). It is sometimes less clear whether the child’s disabilities trigger maltreatment or whether the maltreatment caused the disabilities. Maltreatment can also worsen or complicate preexisting impairments or medical conditions.

Jonson-Reid et al. (2004) addressed the question of whether maltreatment was associated with entry into special education after controlling for other factors. Results were that even after controlling for developmental risk and child-level, family-level, and community-level factors, children in the maltreated group had a risk of entry into special education that was two times higher than children in the poverty-only comparison group. Therefore, maltreatment can lead to physiological and emotional damage that impairs development separate from risk factors due to poverty, maternal risk factors, early medical issues, and early developmental problems.

Other researchers lend support to this idea. Widom & Maxfield (2001) found extremely low IQ scores and low reading ability in their sample of adults who had experienced maltreatment as children. Neglect, in particular neglect occurring early in life, can result in severe cognitive and academic deficits (Hildyard & Wolfe, 2002).

The implications of these findings are that interventions designed to reduce maltreatment may reduce the numbers of children requiring special education services.

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School Achievement and Drop-out

Child abuse can cause regions of the brain to fail to develop properly, resulting in long-term consequences for cognitive, language, and academic abilities (Child Welfare Information Gateway, 2008).

In a prospective, longitudinal study of 574 children followed from age 5 to age 21, Lansford et al. (2007) found that physically-abused youth were 30% less likely than controls to have graduated from high school and were 3 times as likely to have been fired from a job. The role of neglect was particularly strong and resulted in poor academic performance, more suspensions, more disciplinary referrals, and more grade repetitions (Kendall-Tackett & Eckenrode, 1996). Lansford et al. (2002) in a 12-year prospective study found that adolescents who were maltreated early in life were absent from school more than 1.5 times as many days compared to controls and exhibited higher levels of many emotional and behavioral problems.

The National Survey of Child and Adolescent Well-Being (NSCAW), a longitudinal study of over 5,000 children entering the child welfare system due to a maltreatment investigation, found that by the time the sample entered young adulthood, they showed significant differences from average youth. The young adults in the sample obtained scores on the Woodcock-Johnson III Tests of Cognitive Abilities that were, as a group, one standard deviation below average on every subtest. Such scores could limit vocational aspirations and further education (RTI, 2008).

Even for those who are talented students and more resilient, maltreatment makes an impact. For example, less adequate college adjustment is related to high cumulative levels of victimization (Elliott et al., 2009).

Long-Term Medical Effects

Children who sustain severe physical abuse will often have persistent medical consequences which sometimes do not present symptoms until long after the abuse has occurred (Wharton et al., 2000). Women have been studied much more frequently than men.

Women who experience childhood maltreatment have significantly higher median annual health care costs, lower perceptions of their overall health, greater physical and emotional functional disability, a greater number of physical health symptoms, and a greater number of health risk behaviors than women who do not have a maltreatment history (Arias, 2004). They are more likely to spend days in bed and to restrict normal activities because of physical health problems (Golding, 2000).

Adults with a history of childhood maltreatment often experience particular medical problems later in life. Common complaints include: irritable bowel syndrome; chronic pelvic pain; headache; pain syndromes; eating disorders; and psychosomatic disorders (Berkowitz, 2000). In one investigation, women with a maltreatment history were four times more likely to have six or more “medically unexplained” physical symptoms (Golding, 2000).

A study of college women (Runtz, 2002) surveyed 775 participants enrolled in introductory Psychology classes. Of the total, 143 (18.5%) reported a history of childhood sexual abuse; 153 (19.7%) reported a history of physical maltreatment during childhood and 532 (68.6%) reported no maltreatment (53 women reported both physical abuse and sexual abuse). Physical abuse, but not sexual abuse, was linked to a variety of health concerns (nearly all physical health concerns assessed from muscular-skeletal to abdominal to sensory to emotional symptoms). Women who had experienced physical child abuse were more likely to have a greater variety of health problems and to experience them at a higher frequency than non-abused women.

A study using data from the National Survey of Midlife Development in the United States (Shaw et al., 2004) examined 2,905 respondents. Their ages ranged from 25 years to 74 years with an average age of 45. Researchers considered the presence of 27 chronic health conditions (such as asthma; arthritis; thyroid disease; urinary problems; hypertension; diabetes) over the past 12 months. The effects of gender, race, education, and childhood health status were controlled. Researchers measured early parental support and found that this variable was inversely related to chronic health conditions in adulthood. That is, lack of early parent caring and support placed adults at significantly higher risk for chronic health problems. The association persisted throughout the lifespan.

Factors of personal control, self-esteem, and social relationships during adulthood were mediators and accounted for much of the variance. Those adults with little support during childhood reported lower self-esteem, less personal control, less support from family and friends, and more negative interactions with family and friends.

The National Survey of Child and Adolescent Well-Being (NSCAW) is a longitudinal study of over 5,000 children entering the child welfare system after a child maltreatment report. Interestingly, weight problems were the most prevalent health issue among those entering young adulthood. The study found that 27.7% of the sample was overweight and 28.9% were obese (RTI, 2008). These young adults reported a low consumption of fruits and vegetables and limited physical activity. Approximately a third had experienced an injury, accident, or poisoning during the 12 months prior to the interview. Berkowitz (2000) cites studies showing that both the frequency and the severity of obesity are greater for adults who were sexual abuse victims as children. Bentley and Widom (2009) found that childhood physical abuse but not sexual abuse or neglect predicted obesity, however, Lissau and Sorensen (1994) found that parental neglect greatly increased the rise of obesity in young adulthood. Interestingly, those with assault histories have also been found to be more likely to meet criteria for anorexia nervosa or eating disorders (Golding, 2000).

The association between gastrointestinal disorders and child sexual abuse has been explored in a number of studies. The link is understandable, says Berkowitz (2000) because of the effects of stress on gastric secretions and motility which can be influenced by anxiety. Disorders with no particular metabolic basis such as irritable bowel syndrome and chronic abdominal pain are common and have been linked to a history of sexual abuse in both

Employment

Widom & Maxfield (2001) found occupational difficulties such as lack of work, and high rates of unemployment in their sample of 1,196 young adults who had been maltreatment victims as children. However, RTI International (2008) following 620 adolescents in contact with the child welfare system into young adulthood, found the percentage working full time (58.1%) similar to the percentage of working young adults nationwide.
clinic and community samples, according to Berkowitz. These conditions can also be associated with anxiety and mood disorders.

Other common complaints are chronic pelvic pain and menstrual irregularities (Berkowitz, 2000) and the odds of premenstrual distress are more than twice as great for women with a sexual assault history (Golding, 2000). The diagnostic procedures can be costly, says Berkowitz, both in terms of medical charges and time lost from work. Additionally, 10 to 19% of all hysterectomies are performed because of chronic pelvic pain.

Only one study of cancer risk was found. Fuller-Thompson and Brennenstuhl (2009) in a study of 13,092 individuals found that those who had been physically abused were significantly more likely to develop a cancer.

There are several implications for the health care system. Persons with maltreatment histories may require a higher level of health care than non-abused individuals. Studies have suggested that as many as 10-30% of physician visits to primary care providers and 10-20% of the American medical budget relate to somatization (physical symptoms without a clear medical cause). Additionally, a history of sexual abuse, in particular, is associated with overutilization of medical services and an increased number of surgical procedures (Berkowitz, 2000). Those with abuse histories report significantly more hospitalizations for illnesses, a greater number of physical and psychological problems, and lower ratings of their overall health (Moeller, et al., 1993).

Berkowitz notes that physical complaints have been studied more extensively and documented in children as short-term effects of sexual abuse. These problems include enuresis; encopresis; tics; sleep problems; and eating difficulties. Headaches, fainting and dizziness are more typical of adolescent rape victims. Somatic complaints that develop in childhood can persist (Berkowitz, 2000).

Substance Abuse

Early observations of adults seeking treatment for substance abuse found that high percentages of those in treatment had histories of child abuse and neglect and childhood sexual abuse (Gil-Rivas, Fiorentine, Anglin, & Taylor, 1996; Medrano, Zule, Hatch, & Desmond, 1999; Rohsenow, Corbett, & Devine, 1988). For example, Cohen and Densen-Gerber (1982) determined that 84% of their sample of 178 patients had a maltreatment history.

Studies of adolescent substance abusers (both males and females) also have suggested that high numbers (39 to 90%) have maltreatment histories (Dembo, et al., 1987; Dennis & Stevens, 2003; Grella & Joshi, 2003). Some youth are still experiencing maltreatment which has additional implications for current treatment providers.

Prospective studies of adolescents and adults have found that those who were maltreated as children have a higher level of substance abuse problems (Molnar et al., 2001; Kendler et al., 2000; Schuck & Widom, 2001; Widom & Maxfield, 2001). For example, Kaplan et al. (1998) found that physically abused adolescents are nearly 19 times as likely to abuse drugs compared to non-abused peers. However, two studies found that adult women survivors but not adult men survivors reported symptoms of alcohol abuse and dependence (Horowitz et al., 2001; Widom, Ireland, & Glynn, 1995). For males, a history of childhood sexual abuse increased the likelihood of injection drug use (Purcell et al., 2004).

In a retrospective study, Fergusson and Lynskey (1997) found a relationship between physical abuse in childhood and alcohol abuse or dependence but not for nicotine dependence or cannabis abuse or dependence. Others (Kaplan et al., 1998) have found an association between childhood maltreatment and cigarette use.

Wilson et al. (2004) found that women who experienced childhood sexual abuse reported greater involvement in alcohol-related risky sexual behaviors as adults. In their review, they found the link between childhood sexual abuse and substance abuse appeared to be greater for those who experienced more severe forms of sexual abuse. Further, the link may be mediated by psychological distress related to the childhood sexual abuse such as depression, anxiety and PTSD.

Both adolescents and adults with maltreatment histories who are referred for substance abuse treatment show greater problem severity and higher levels of psychopathology than non-abused individuals referred for treatment (Blood & Cornwall, 1996; Gil-Rivas, et al., 1997; Grella & Joshi, 2003; Gutierrez & Todd, 1997; Hawke, Jainchill, & DeLeon, 2000). Disorders such as depression, anxiety, suicide attempts, and PTSD frequently co-occur with substance abuse when clients were maltreated as children and these co-morbid disorders can complicate the substance abuse treatment. Also, both adolescents and adult substance abusers who were abuse victims reported initiating substance use earlier than their non-abused peers (Harrison, Fullerson, & Beebe, 1997; Hawke, et al., 2000; Jarvis, Copeland, & Walton, 1998).

Adolescent neglect has been shown to be associated with greater alcohol involvement in youth (Hawke et al., 2000). Adolescents with low parent involvement are more likely to drink alcohol across a variety of situations, appear less capable of resisting social pressure to drink (Clark, Thatcher & Maisto, 2004) and show regular use of cocaine and stimulants as well as greater frequency of use (Singer, Petchers, & Hussey, 1989). Additionally, Wall and Kohl (2007) found that youth who did not feel loved, trusted, or cared for by their caregivers reported higher levels of substance use than did youth who reported higher caregiver relatedness. Conduct problems were significantly related to higher levels of substance use. High caregiver monitoring decreased the odds of substance use, thus supervision of youth may be a key tactic for helping maltreated youth decrease substance use.

Implications for substance abuse providers are several. Providers need to screen clients for maltreatment history. The greater level of problem severity for maltreated clients means they have a higher level of service need than non-maltreated clients (Grella & Joshi, 2003).

Criminal Behavior

The link between childhood maltreatment and later criminal behavior, either as a juvenile or as an adult, has been extensively researched. There is considerable evidence for an association. Due to space limits, only a few of the many studies reviewed by VCPN staff will be discussed.

Retrospective studies of delinquents find high rates of histories of maltreatment, ranging from 9% to 29% (Widom, 1989). Longitudinal studies have confirmed the linkages between child maltreatment and delinquency as well. Further, persistent maltreatment in childhood and adolescence has stronger negative impact on delinquency compared to maltreatment only in childhood years (Thornberry, Ireland & Smith, 2001). A cross-sectional study (Kaplan et al., 1998) compared 99 adolescents who were physical abuse victims to 99 matched non-abused controls. They found that conduct disorder was nine times more likely for subjects with a maltreatment history.

Widom (1989) identified a large sample of substantiated cases of child maltreatment from 20 years prior (1967 through 1971) and established a matched control group of young adults who were not abused as children. To be certain that the abuse preceded the criminal behaviors, she restricted the sample to those children who were 11 or younger at the time of maltreatment. The sample contained equal numbers of male and female children and was 67% white and 31% Black. Findings were that abused and neglected children had more arrests as juveniles (26% of those maltreated as children versus 17% of matched continued on page 13
The Adverse Childhood Experiences (ACE) Study

Robert F. Anda, MD

Dr. Anda is a Co-Principal Investigator of the ACE Study. He has authored and co-authored numerous publications on the health and social implications of adverse childhood experiences. Dr. Anda earned his MD from Chicago’s Rush Medical College in 1979, and is Board Certified in Internal Medicine. After earning an MS in Epidemiology from the University of Wisconsin School of Medicine in 1984, he served for 2 years as an Epidemic Intelligence Service Officer for the Centers for Disease Control and Prevention (CDC). At the CDC, Dr. Anda has served as an Epidemiologist in the Nutrition Division, the Behavioral Risk Factor Surveillance Branch, the Cardiovascular Health Studies Branch, and on the Task Force on Genetics in Public Health. From 1992 to 1994, he was the Chief of Epidemiology and the Surveillance Section in Cardiovascular Health. Since 1993, Dr. Anda has been working on the ACE Study. Dr. Anda can be reached at: raf1@cdc.gov

Vincent J. Felitti, MD

Dr. Felitti is an internist with 41 years of experience at Kaiser Permanente Medical Care Program in San Diego, California. He began his career working with infectious diseases. Mid-career, he turned his attention to prevention. He began a risk abatement program for clients who were obese and needed to lose 300 pounds or more. It was during this program that he made the initial observations that led to the ACE Study. Dr. Felitti can be reached at: vfmdsdsca@mac.com

The ACE Study poses the question of whether and how childhood experiences affect adult health decades later. With the cooperation of 17,421 adult members of Kaiser Permanente, co-principal investigators Robert F. Anda, MD, MS an Epidemiologist at the Centers for Disease Control and Prevention (CDC) in Atlanta and Vincent J. Felitti, MD, the Internist who founded the Department of Preventive Medicine at Kaiser Permanente in San Diego are discovering the inter-relationships between multiple categories of childhood trauma and health and behavioral outcomes later in life. The Study is the largest of its kind.

The Study was inspired by observations Dr. Felitti made while operating a major weight loss program attached to Kaiser’s Department of Preventive Medicine. Unexpectedly, the program had a large drop out rate, limited almost exclusively to patients who were successful in losing weight. Exploring the reasons why successful patients would “flee their own success” led to the recognition that weight loss can be sexually or physically threatening. Overeating was a compensatory behavior to salve the anguish dating from childhood experiences that were hidden by shame, secrecy, and even social taboos against discussing certain life experiences. The resulting obesity often was advantageous, apart from the health risks. Dr. Felitti provides one example, “We asked the adults at what age they first started to gain weight. It was a frequent reply that the excessive eating and weight gain began after an event such as parental separation or divorce.”

When Dr. Anda (at the CDC) met Dr. Felitti and learned of his observations, as well as the number of people passing through the Department of Preventive Medicine each year for health screening, Dr. Anda proposed what would become the ACE Study. The researchers became convinced that traumatic life experiences during childhood and adolescence were far more common than generally recognized. Further, these traumatic experiences were interrelated and were associated decades later with health, mental health, and behaviors. “We came to recognize that the earliest years of infancy and childhood are not lost but, like a child’s footprints in wet cement, are often life-long” (Felitti & Anda, 2009, p. 3).

In a recent interview with VCPN, Dr. Felitti stressed that the subjects in the ACE Study were middle-class Americans enrolled in the Kaiser Health Plan. The researchers asked 26,000 consecutive adults coming through the Department if they would help in a study to understand how childhood events might affect adult health status. The majority agreed and, after some exclusions for incomplete data and duplicate participation, the cohort was over 17,000 individuals. The participants were 80% white (including Hispanic), 10% Black, and 10% Asian. Almost half of the subjects were men and half were women.

The Study was divided into two waves. Eight categories of adverse experiences (ACEs) were studied in the first wave. The selected adverse childhood experiences were defined as: emotional, physical, or sexual abuse; growing up in a household where someone was an alcoholic or a drug user, mentally ill, or suicidal, where the mother was treated violently, and/or where a household member had been imprisoned during the patient’s childhood. For the second wave, two categories of neglect were added: physical neglect and emotional neglect.

The Study found the following in their sample of 9,367 Women and 7,970 Men (total, 17,337):

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<th>WOMEN</th>
<th>MEN</th>
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<td>Physical Abuse</td>
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<td>Physical Neglect</td>
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<td>11.5%</td>
<td>12.7%</td>
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<td>24.5%</td>
<td>21.8%</td>
<td>23.3%</td>
</tr>
<tr>
<td>Household Member Incarcerated</td>
<td>5.2%</td>
<td>4.1%</td>
<td>4.7%</td>
</tr>
</tbody>
</table>

Because the researchers found that in most cases several categories of adverse events were in patients’ histories, a simple scoring system was developed and termed the ACE Score. Each participant was assigned one point for each category of adverse experience occurring before age 18. Readers should note that multiple incidents within a category were not tallied. Thus, a subject with one incident of sexual molestation and a subject who was sexually abused multiple times by various individuals received the same one-point added to his or her ACE Score for that category of abuse.
The Findings

The percentage of members with each ACE Score was: 0 points (36.1%); 1 point (26.0%); 2 points (15.9%); 3 points (9.5%); 4 points or more (12.5%). The ACE Scores serves as a measure of the burden of traumatic childhood experiences. Dr. Felitti stresses that the subject population was comprised of average, middle-class people. “Child abuse in a very middle-class population is remarkably common, largely unrecognized, and 50 years later will be impacting the person’s physical health and behavioral health,” he explains.

The ACE Study matched retrospectively, approximately a half century after the fact, the individual’s current state of health and well-being to childhood adverse events. The researchers found startling information. Not only were adverse events common (only a third of members had none), but as the ACE Score increased, the negative effects were cumulative. Compared to persons with an ACE Score of “0” those with a score of “4” or more were:

- Twice as likely to smoke cigarettes.
- Twelve times more likely to have attempted suicide.
- Seven times more likely to experience alcoholism.
- Ten times more likely to have injected street drugs (an ACE Score of 6 or more raised the risk to 4,600% compared to an ACE Score of “0”).
- Two hundred and sixty percent more likely to be suffering from depression.
- More likely to contracting hepatitis.
- At two hundred and fifty percent (250%) higher risk for contracting a sexually transmitted disease.
- Four hundred and sixty percent (460%) more likely to be suffering from depression.

Child maltreatment had some specific impacts. For example, participants who were sexually abused as children were more likely to experience multiple ACEs. The ACE Score increased as the child sexual abuse severity, duration, and frequency increased and the age at first occurrence decreased.

Worse, and men who experienced child sexual abuse were twice as likely to report suicide attempts. Men and women who reported being sexually abused were more at risk of marrying an alcoholic and having current marital problems.

Witnessing intimate partner violence as a child had some specific impacts on health and behavior. Those who were child witnesses of domestic violence were two to six times more likely to have experienced another ACE. As the frequency of witnessing domestic violence increased, the chance of self-acknowledged alcoholism, illicit drug use, IV drug use, and depression increased. Exposure to physical abuse, sexual abuse, and witnessing domestic violence resulted in women being 3.5 times more likely to be a victim of domestic violence as an adult. For men, exposure to physical abuse, sexual abuse, and witnessing domestic violence resulted in their being 3.8 times more likely to report perpetrating domestic violence as an adult.

### ACEs and IV Drugs

The findings from the ACE Study suggest that problems such as addiction frequently have their origins in the traumatic experiences of childhood. For example, each ACE increased the likelihood of illicit drug use 2- to 4-fold by age 14. Compared to people with 0 ACEs, those with more than 5 ACEs were 7- to 10-fold more likely to report illicit drug use and addiction to illicit drugs. A male child with an ACE of 6 has a 4,600% increase in the likelihood of becoming an IV drug user when compared to a male child with an ACE Score of 0. (“Might heroin be used to relieve the profound anguish of traumatic childhood experiences?” ask the researchers.) Because ACEs appear to account for one half to two thirds of serious problems with drug use, national goals for reducing drug use must consider how stressful and disturbing childhood experiences affect later drug use (Dube et al., 2003).

### ACEs and Adult Alcoholism

Alcohol is the most common and frequently-used drug. Adverse childhood experiences are strongly related to ever drinking alcohol and to alcohol initiation in early and mid-adolescence. Subjects were divided into four birth cohorts dating back to 1900. The stressful effects of ACEs were found to transcend changes such as the availability of alcohol, alcohol advertising, and recent prevention campaigns (Dube et al., 2006). Each of the original eight ACEs was associated with a higher risk of alcohol abuse as an adult. Compared to persons with no ACEs, the risk of heavy drinking, self-reported alcoholism, and marrying an alcoholic increased two-fold to four-fold by the presence of multiple ACEs, regardless of parental alcoholism (Dube et al., 2002).

The relationship between ACEs and smoking tobacco is strong and cumulative (Anda et al., 1999). Further, the relationship between ACEs and smoking behaviors do not appear to be mediated primarily by genetics or modeling by parents who were smokers. The Study found that increasing numbers of ACEs resulted in increased risk for early smoking initiation, for ever smoking, for current smoking, and for heavy smoking. The authors suggest that the use of nicotine is an effort to self-medicate in order to cope with negative emotional, neurobiological, and social effects of adverse childhood experiences. Dr. Felitti comments, “Indeed, the psychoactive benefits of nicotine were understood long before its health risks were discovered.”

The relationship between ACEs and adolescent pregnancy is strong and graded.

### ACEs and Teen Pregnancy

“Teen pregnancy occurred in 16%, 21%, 26%, 29%, 32%, 40%, 43%, and 53% of those with 0, 1, 2, 3, 4, 5, 6, 7, to 8 ACEs.” (Hillis et al., 2004, p. 320). Likewise, among those with 0, 1, 2, 3, 4 to 5, and 6 to 7 ACEs, the proportion of persons with STDs was 4.1%, 6.9%, 8.0%, 11.6%, 13.5%, and 20.7% for women and 7.3%, 10.9%, 12.9%, 17.1%, 17.1%, and 39.1% for men (Hills et al., 2001). Similarly, the numbers of types of adverse experiences were increasingly associated with having had 50 or more sexual partners and with perceiving oneself as being at risk for AIDS.

Nineteen percent of the men reported they had impregnated a teenage girl. Compared with respondents reporting no abuse, those who had been physically abused, or who had battered mothers, showed an increased risk of involvement in teen pregnancy of 70% and 140% respectively. Being a sexual abuse victim by age 10 increased the risk of impregnating a teenage girl by 80%. Being the victim of sexual abuse with violence increased the risk of impregnating a teen girl by 110% (Anda et al., 2001).

continued on page 8
Depression is one example of mental health problems related to ACE. Women with no ACEs had an 18.5% chance of a life-time history of depression. Women with one ACE had a 25.8% occurrence, rising to 32.7% for 2 ACEs, to 44.7% for 3 ACEs, to 47.5% for 4 ACEs and for 5 or more ACEs it rises to 61.0%. For men the progression is 32.7% for 2 ACEs, to 44.7% for 3 ACEs, to 54% of current depression and 58% of suicide attempts in women can be attributed to ACE (Felitti & Anda, 2009). Dr. Felitti comments, “Depression and suicide have origins in childhood.”

Researchers noticed that some individuals in the weight study (about 12%) experienced loss of memory for a period of their lives, typically the years prior to the weight gain. In the ACE Study, they found that impaired memory of childhood increased with the value of the ACE Score. The researchers interpreted this finding to be reflective of dissociative responses to emotional trauma (Felitti & Anda, 2009).

Many medical problems were related to ACE. Dr. Felitti spoke about the overall effects. “We found that an ACE Score of 6 or more shortened life expectancy by 20 years,” he proclaimed.

Early experiences can have long-term effects on the child’s physiology (see VCPN, Volume 77, “Maltreatment and Its Effects on Early Brain Development”) and create the conditions for depression, anxiety, and post-traumatic stress. The higher the ACE Score is, the greater the likelihood of multiple adverse outcomes for the adult. As Dr. Felitti says, “Time does not heal. Time conceals.”

The second part of the Study follows the cohort forward to match the ACE Score prospectively against doctor visits, ED visits, hospitalization, pharmacy costs, and death. “We recently have passed the fourteen-year mark in the prospective arm of the Study,” remarked Dr. Felitti. Researchers are analyzing pharmacy data (to determine costs of prescription drugs) and have shown that ACE affects the decades-later use of medications. Additional analyses of ACE Scores and doctor’s visits, Emergency Department visits, hospitalization, and death are in progress.

The Implications

“ACEs are more common than generally acknowledged. They have a powerful relationship to adult health a half-century later” explains Dr. Felitti. However, he adds that the relationships are not necessarily straightforward. For example, one might assume that COPD is an obvious outcome of smoking cigarettes. One might think that stressful early childhood experiences leads to a coping behavior such as smoking, and then the smoking is the mechanism that damages the body. While this mechanism may be true, it is incomplete, say the researchers, and the actual situation is more complex. The ACE Score still has a strong relationship to COPD even after correcting for risk factors such as smoking (Felitti & Anda, 2009).

The researchers postulate two basic etiological mechanisms that result in a multi-step process. First, the conventional risk factors such as smoking are attempts at self-help and are difficult to relinquish because they provide immediate partial relief. Dr. Felitti notes, “These damaging habits keep the door closed on the past.” These damaging behaviors also cause secondary negative health effects later in time. Secondly, the major effects of chronic stress change the developing brain and body systems, dysregulate stress responses, and involve mechanisms leading to the release of pro-inflammatory chemicals that damage various organs years later (Felitti & Anda, 2009).

Researchers urge health professionals to expand their inquiry and take a biopsychosocial approach to the comprehensive medical evaluation. As Dr. Felitti, a comprehensive approach is affordable and workable in general medical practice. “We have routinely screened for ACEs in 440,000 patients over an eight-year period,” says Dr. Felitti. The mechanism that works best is to imbed the ACE questions into the general medical questionnaire. At the person’s next appointment, the doctor can ask for any ACE, ‘Tell me how that has affected you in life?’ This question allows the patient to briefly acknowledge the experience. Initial data indicate that such an approach has reduced doctor office visits (by 35%), ED visits (by 11%), and hospitalizations (by 3%) in the subsequent year.

The implications for prevention are obvious. “There is a pressing need for improved parenting skills,” explains Dr. Felitti. “There are a huge number of parents who have no experience with supportive parenting.” One idea Dr. Felitti mentioned was the use of media. “When we ran a home visitation program for 700 newborns, home-visitors noticed that the parents always had the television on and tuned in to soap operas. I think people were seeking models for living and parenting. If illustrations of supportive parenting, contrasted with destructive parenting, could be embedded into television programs, they would reach an enormous audience.”

Unfortunately, ACEs are generally unrecognized and unappreciated. According to Dr. Felitti, many physicians are uncomfortable discussing ACEs. Asking about ACEs can trigger personal reactions in physicians, says Dr. Felitti. Secondly, incorporating ACEs into the comprehensive medical exam requires a paradigm shift. “Doctors who appreciate and use the ACE information will need to depart from a symptom-focused practice into a more comprehensive model that considers the root cause of the problem. Doctors are not trained in how to take this approach.” When doctors do not even ask about ACEs, the experiences are lost in time, concealed by shame, secrecy, and social
A Survivor Speaks About ACEs

Carol Redding is an adult survivor. “I have been a Kaiser member for 35 years. I never connected my health status with my childhood. Then I heard about the ACE Study. My life suddenly made sense! Of the ten adverse events in the Study, I had experienced nine. I was struggling with tremendous PTSD but I had never connected my present condition with my past,” explained Redding in a recent interview with VCPN staff. “I had been trying stress reduction methods but the Study helped me understand why I had problems and the source of my stress. I had never understood before reading the Study why stress was so pronounced for me. I used to simply believe that I was terribly unlucky to have many health problems.”

Redding learned through the Study findings that her difficulties were not necessarily genetic or inevitable. The discovery started her on an adventure of learning about how stress and trauma can alter the developing brain and cause changes in the body’s biochemistry.

Redding believes the ACE Study speaks to survivors and she volunteers her time to spread the word about the findings. “These findings are so important!” exclaims Redding. “They need to be available to the average person.” In order to help spread the word, Redding edits the ACE REPORTER, a ‘Reader’s Digest’ version of the Study findings that anyone can read and understand. Redding notes that the ACE REPORTER is free and interested individuals can subscribe by logging on to ACEStudy.org. Redding also does public speaking, coordinates a support group and convinced the Centers for Disease Control to launch an official website for the ACE Study.

VCPN staff asked how the Study findings can help a survivor. Redding replied, “Understanding the Study enables a person to express their own trauma in terms of the findings. It is a message of hope. The solutions are within each of us. We can overcome the risks and mitigate the potential risks by improving the way we live. But first comes understanding the problem and that is the gift of the Study.”

Redding explained that disclosure is the first step. She added, “Knowing that the majority of us are damaged- only a third of individuals have no ACE- makes it easy to acknowledge our own vulnerabilities. After acknowledgement and appreciating the extent of the problem, one can begin to put things in order. We can regulate ourselves and prevent the occurrences of negative health and mental health outcomes.”

For those who are fortunate and who have no ACEs, Redding also has a message. “We can carry the Study findings and knowledge into our everyday lives. In our interactions with others we can remember to be gentle and tread lightly.”

Those interested in contacting Carol Redding can reach her at: redding@acestudy.org

The Effects of Childhood Stress on Health Across the Lifespan, by Jennifer S. Middlebrooks, M.S.W., M.P.H. & Natalie C. Audage, M.P.H., 2008, 16 pages. Available from: Centers for Disease Control and Prevention, National Center for Injury Prevention and Control, 1-800-CDC-INFO, E-mail: cdcinfo@cdc.gov Web site: www.cdc.gov/injury

This short publication summarizes the results of over 30 research studies on the ACE (Adverse Childhood Experiences) data. It explains types of stress and how stress affects the child’s developing brain. It describes the ACE study findings. It discusses proven prevention strategies.

Spread the Word About the Ace Research!

Many violence prevention practitioners are unaware of the current research about toxic stress and the findings of the Adverse Childhood Experiences (ACE) Study. The following suggestions are from the CDC Publication “The Effects of Childhood Stress on Health Across the Lifespan” (see review, above).

SHARE THE KNOWLEDGE

• Incorporate the research into presentations to professional audiences.
• Invite an expert to give a conference keynote address, participate in Grand Rounds, or provide staff training.
• Work with reporters to highlight the issue (Internet; print media; television; radio).
• Reference the research in scholarly articles.
• Use the data for Child Abuse Prevention Month or Domestic Violence Awareness Month.

• Work with local colleges and universities to incorporate the research into curricula of psychology, nursing, medicine, social work, and public health programs.

COLLECT DATA

• Survey instruments are available online (www.cdc.gov/NCCDPHP/ACE/questionnaires.htm). They can be used to assess the prevalence of ACEs in populations that interest you.

SECURE ADDITIONAL RESOURCES

• The data can be incorporated into grant applications or used when opportunities to secure additional resources become available. Several CDC partners have used the data to demonstrate that violence prevention leads to overall health and well-being.
LONGSCAN

Dr. Runyan has been a faculty member of the medical school’s Department of Social Medicine at the University of North Carolina at Chapel Hill since 1981 and he served as chair from 1999-2007. As a college student, Dr. Runyan had a summer experience in public health work in Africa. As a medical student, he chose a mentor with expertise in public health in order to continue his interests in international health. The mentor was an early leader in child maltreatment and directed Runyan to perform some research in this area. The required assignment sparked a fascination about the interface between a child’s experiences and his or her life trajectory.

Dr. Runyan wrote the original grant for LONGSCAN (Consortium of Longitudinal Studies in Child Abuse and Neglect) in 1989. He received a planning grant and then a grant for the first 5-year project. The scope of the project was more than the funding agency originally envisioned in its original call for proposals; negotiation was required as well as frequent renewals. Now, 20 years into the research, Dr. Runyan points to the numerous publications and placement of the data into the National Data Archive so many researchers can use it. “In addition to more than 120 publications from our team, more than 25 completed doctoral dissertations have used this data,” says Dr. Runyan. Dr. Runyan can be reached at drunyan@med.unc.edu

Lynn Martin, MA

Lynn Martin’s background includes a Master’s degree in Counseling Psychology from the University of Missouri-Columbia and licensure as a Psychology Associate. Previous to LONGSCAN, in addition to other clinical work, she was the project manager for two major collaborative studies. In 1998 she became the cross-site coordinator for the LONGSCAN Consortium, and after 11 years, is an integral part of the research team. Ms. Martin can be reached at lynn_martin@med.unc.edu

The Longitudinal Studies on Child Abuse and Neglect (LONGSCAN) Consortium is a 20-year longitudinal study examining the antecedents and consequences of child maltreatment. It was initiated in 1990 with a grant from the National Center on Child Abuse and Neglect, and continues to be funded by the Office on Child Abuse and Neglect within the Children’s Bureau. There is a Coordinating Center at the University of North Carolina at Chapel Hill’s Injury Prevention Research Center and five data collection sites. Three are urban sites (one in the East; one in the Midwest; one in the South-west), one suburban site is in the Northwest part of the country, and one Southern site that includes urban, suburban, and rural communities. While each site is conducting a separate and unique research project, through the use of common assessment measures, similar data collection methods and schedules, and pooled analyses, LONGSCAN is a collaborative effort.

The coordinated LONGSCAN design permits a comprehensive exploration of critical issues in child abuse and neglect on a combined sample of sufficient size for unprecedented statistical power and flexibility. The sample is 1,354 children identified in infancy or early childhood as being maltreated or at risk of maltreatment. The children being followed are culturally diverse. The LONGSCAN team of researchers is interdisciplinary including specialists from pediatrics, psychology, social work, sociology, biostatistics, and public health.

The size and diversity of the sample allows examination of the relative impact of various forms of maltreatment, singularly and in combination with others. Having multiple sites permits evaluation of the effectiveness of service delivery across localities.

LONGSCAN researchers have followed children and their families as they have grown to young adulthood. Comprehensive assessments of children (including input from parents and teachers) occurred at ages 4, 6, 8, 12, 14, 16, and 18. Maltreatment data are collected from multiple sources, including record reviews and child self-reports starting at age 12, at least every two years. Yearly telephone interviews allow the sites to track families and assess yearly service utilization and life events. The National Data Archive on Child Abuse and Neglect (NDACAN) makes a restricted dataset available to members of the research community who meet eligibility criteria and agree to the requirements of the data license.

In an interview with VCPN, Dr. Desmond Runyan commented on some of the findings of LONGSCAN. “Not every maltreated child experiences similar outcomes. It appears that about a third are severely impacted and about a third escape relatively unscathed. The remaining children are a middle group with less severe outcomes,” Dr. Runyan explains.

“When we consider trajectory, some might assume that sexual abuse results in the most severe negative outcomes. However, we are learning that other forms of maltreatment are even more destructive. For example, the most severe effects at age eight were from witnessing domestic violence. At age 12, the most severe effects were associated with psychological abuse,” Dr. Runyan adds. Dr. English, at the Northwestern site, has similar findings. “The system is not dealing with emotional abuse and the effects may be just as harmful as other forms of maltreatment,” says Dr. English.

Jonathan Kotch, MD, is the principal investigator of the southern site for LONGSCAN. He comments, “Child maltreatment is not an isolated event. It often occurs in the context of many other factors, both those that can strengthen the child and variables that are additional negative events and stressors. We are developing an appreciation of how complex the relationships can be.” AI Litrownik, Ph.D., principal investigator of the southwest site of LONGSCAN, agrees. “One advantage of following children over a very long period of time is that we learn that there are no simple answers. The sample at our site consists solely of children in foster care. We have found that there are advantages and disadvantages to reunification as well as for adoption,” comments Dr. Litrownik.

A Sampling of Findings

- Children living in adverse circumstances with known family/caregiver risk factors are at higher risk for adverse outcomes, and maltreatment compounds the negative outcomes.
- Maltreatment reports appear more likely in households where mothers are depressed, complain of somatic symptoms, consume alcohol, participate in public income support programs, care for more than one dependent child, have not graduated from high school, or were separated from their own mothers by age 14.
- In general, families with low levels of social support have a higher risk of a maltreatment report.
- Most children who were victimized were victims of more than one type of maltreatment.
A cultural change is needed to increase the home environment can be enriched intervention to develop and strengthen it is important to know about the pattern type of abuse, severity, chronicity, and CPS classification of general neglect was children should be screened for risk factors and anger. appropriate discipline strategies, reducing the use of corporal punishment, and helping young parents cope with frustration and anger. A cultural change is needed to increase expectations for fathers and to support the development of programs that enhance men’s parenting skills. Preventing intimate partner violence among couples with children will help prevent child maltreatment. For both children who are reunified with biological parents and for those who are continued on page 13

Implications for Interventions

- Intervention to develop and strengthen protective factors in teen parent families should begin early, because problems in children's emotional and behavioral functioning develop early and persist over time.
- If the home environment can be enriched and the mother's depression treated in the child's early years, behavior and development of the children improves.
- Primary health care services for women and children should improve identification and screening of at-risk mothers for depression, substance abuse, and past or current victimization as well as disciplinary practices and problems in the parent-child relationship.
- Children should be screened for risk factors such as Failure to Thrive and maltreatment, as well as for a range of negative developmental and behavioral outcomes so that those at highest risk can be identified and offered services.
- Parenting programs should offer practical guidance aimed at teaching age-appropriate discipline strategies, reducing the use of corporal punishment, and helping young parents cope with frustration and anger.

LONGSCAN’s Northwestern Site

According to principal investigator Diana English, LONGSCAN’s northwestern site is different from the others. “We were already a research center within a public child welfare agency,” explains Dr. English. “Our sample is taken from child protective services intake while the North Carolina sample is obtained through public health and the Chicago sample is through mental health.”

Dr. English has a sample of 261 cases now in their 19th year. Dr. English describes very intensive contact strategies. “Our families know our interviewers and they are comfortable with them. We have retained about 80% of our group at each interview. We try to measure every child at each data point and we even send staff to other states to interview if necessary.”

The Northwest sample was recruited from birth to age four. They are all children who were referred to CPS but not all were confirmed for maltreatment. Having a sample with staggered ages means that the Northwestern site interviews every year (about 50 cases a year) rather than interviewing their entire sample in one year. “We interview within three months of the child’s birthday,” says Dr. English.

The data from the Northwestern site can inform public child welfare in particular, according to Dr. English. “I am a ‘public agency person’ and I think in that perspective. I want to help inform changes in public agency practice,” declares Dr. English. She explains that the data indicates that maltreatment accounts for less variance in outcome than does family chaos. “Neglect is a pervasive problem and developmental harm happens early, at least by age six. There are key indicators at early stages that should trigger prevention services,” English elaborates. She adds, “I would like to have the system do something different after a third referral and offer an intensive intervention. Early intervention can prevent harm.”

Dr. English notes that by age 12, the 261 children in the sample had been referred to CPS a total of 1,294 times for 2,469 allegations of maltreatment. About a third of the sample had continuous referrals across their life span (0 to 12 years). Dr. English explains, “We are interested in understanding the consequences to the children referred repeatedly, sometimes with little intervention, compared to ‘at-risk’ children where someone had referred them to CPS only once.”

The research indicates that both the extent and the continuity of a child’s maltreatment will predict the social, emotional and behavioral outcomes. Dr. English asserts, “CPS and CWS workers need additional support in assessing risk issues such as substance use/abuse, parenting skills and child functioning. Standardized measures could improve risk assessment and provide more consistent estimates of the likelihood of future abuse or neglect, she says.

Another issue is the occurrence of domestic violence within the context of child protection. Dr. English notes, “Between 7 and 10% of the homes in our sample have spouse abuse at a severe level. Other families show aggressive behaviors and bilateral violence.”

She suggests that CPS workers conduct a comprehensive assessment of intimate partner aggression that includes both adult caregivers in order to determine the child’s exposure to intimate partner aggression and violence and workers ascertain the risks to both the adults and to the child.

Dr. English is interested in the concept of resiliency. “We know the developmental status of our sample both prior to and after the abuse. For instance, we have measures of child functioning before the children were referred for sexual abuse. Not only can we examine the consequences of sexual abuse, but we are in the process of examining the data to learn about resiliency factors,” she says. It will be several years before the data analysis will be complete. Dr. English would like to obtain funding for further follow up interviews into young adulthood. She is currently writing a summary and implications from the data analyzed to date.

Diana English, Ph.D.

Dr. English obtained a Master’s in Social Work from California State at Sacramento and a Ph.D. in Social Work from the University of Washington. She worked in a public child welfare agency and was quite successful in obtaining research money. At a meeting in 1991, she was invited to join the LONGSCAN Consortium. “I knew I could bring a unique perspective to the effort,” says Dr. English.

Five years ago, the LONGSCAN project moved from the public agency to the University of Washington where Dr. English is an adjunct instructor. She is also a Senior Director for the Casey Family Program.

Diana English can be reached at (206) 923-0682 or by E-mail: Diana.english@gmail.com
LONGSCAN’s Southern Site

Jonathan Kotch oversees LONGSCAN’s Southern site. In a recent interview with VCPN staff, Dr. Kotch described his involvement with the project. “Our site was the first. I had a previous grant from 1985 to 1989 that was the basis for recruiting the population,” began Dr. Kotch. He said that the original sample were mother/infant pairs from both North Carolina and South Carolina. “When LONGSCAN started in 1991, the children in our sample were almost five years old. The LONGSCAN grant did not provide sufficient funding to continue to follow all the children, so we eliminated the South Carolina children and dropped our sample to 788 pairs,” explained Dr. Kotch.

Dr. Kotch described the process of matching the sample. “About 28% of our population had been reported by age 4 to child protective services. We went down the list in random order and matched 70 reported children on age, race, sex, and income with two non-reported children,” said Dr. Kotch. Matching each target child with two non-reported children proved to be a wise decision. By age 8, half of the non-reported children had also been reported to CPS. The researchers started with 210 children and during the matching process, the number rose to 221. Some children (21) were lost between the first and second interview and LONGSCAN admitted 22 additional children. The cohort then was 243. Over time, the sample of 243 diminished to 136 by age 16. Interestingly, the researchers recovered subjects at age 18. The youth were able to give consent themselves to participate, and the number rose to 174.

VCPN asked Dr. Kotch to summarize some of the most important understandings to date from the data collected at his site. He offered three insights:

- For children who are reported to Child Protective Services, those with unsubstantiated reports have similar developmental outcomes to children with substantiated reports.
- For very young children especially, neglect has more adverse developmental outcomes than abuse.
- For children who are reported to Child Protective Services, those with unsubstantiated reports have similar developmental outcomes to children with substantiated reports.

With data collection drawing to a close, Dr. Kotch is turning his attention to questions about resiliency. What factors allow some children to emerge less harmed than other children? Dr. Kotch is exploring the role of social capital. For example, can neighborhood trust and reciprocity provide strong supports to a child?

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LONGSCAN’s Southwest Site

Alan J. Litrownik, Ph.D.

Dr. Litrownik is the Principal Investigator for the Southwestern LONGSCAN site. “Our site is comprised of children who were removed from their homes prior to age 3 and a half,” he explains. Similar to the Southern site, Dr. Litrownik was already involved in a grant-funded research study when he joined the LONGSCAN team. “Our prior study included children birth to age 16. For LONGSCAN, we selected children less than 3 and half. Now, they are 18 to 21 years of age,” added Dr. Litrownik.

VCPN staff asked Dr. Litrownik to summarize some of the findings.

- Children in stable situations have better outcomes.
- Adopted children are better adjusted when the children are younger, but by age 14, the adopted children show greater problems than those who were reunified with biological family. Dr. Litrownik did not know if the findings change at age 18 because the data are still being gathered.
- Individual stories and outcomes are varied. No solution is effective for everyone.
- Dr. Litrownik has many plans for continuing research. “There is so much information in the data we have collected!” he exclaims. “For example, what factors are related to positive outcomes? What can increase the likelihood of success for foster children?” he wonders out loud. His team is starting to examine possible protective factors such as cognitive abilities; positive social skills; and stable living environments.

Another exciting aspect is the compilation of life narratives. “The stories of the children’s lives are so interesting,” reflects Dr. Litrownik. “Some of the stories break your heart and some are simply inspiring. When youth turn age 18, we can ask them to participate in obtaining a narrative. We are excited to learn what the critical experiences of their lives have been.”

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Jonathan B. Kotch, MD, MPH, MA, FAAP

Dr. Kotch is the Primary Investigator for LONGSCAN’s Southern site. He is a board certified specialist in both pediatrics and preventive medicine. He graduated summa cum laude from Columbia University and received a medical degree from Stanford University. He then added a Master’s Public Health degree in Maternal and Child Health from the University of North Carolina at Chapel Hill. In addition, he has an M.A. in social anthropology from King’s College, Cambridge. Dr. Kotch is the recipient of many honors and awards. He is a faculty member at the University of North Carolina and has authored over 70 articles in scientific publications. He has extensive experience managing grants and directing prevention programs.

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Maltreatment: Long-Term Effects

controls); a greater number of arrests as adults (29% versus 21%) and more arrests for violent offenses (11% versus 8%). Subjects in the maltreatment group had a greater number of offenses, an earlier mean age of first offense, and a higher proportion of individuals with chronic (five or more) offenses. Although women had lower rates of arrests than men, abused or neglected females were significantly more likely to have an adult arrest than control females. Both physical abuse and neglect were significantly related to later criminal behavior.

Prospective, longitudinal studies have provided further support. Herrenkohl, Egolf and Herrenkohl (1997) in a sample of 457 children from 297 families found that the severity of physical abuse in preschool years and negative maternal interaction related to assaultive behaviors in late adolescence 16 years later. Lamsford et al. (2007), studying 574 children from age 5 to age 21 found that those who had been physically abused in the first 5 years of life were at greater risk for being arrested as juveniles for violent, nonviolent, and status offenses. Mersky & Reynolds (2007) using data from the Chicago Longitudinal Study on 1,404 participants found that maltreatment was associated with a 51% increase in the likelihood of being adjudicated for a violent offense as a juvenile or adult. The observed effects of maltreatment were evident after controlling for known correlates of maltreatment and delinquency. Fergusson and Lynskey (1997) found a relationship between physical abuse and later violent offending but no relationship for property offenses.

Using the National Longitudinal Study of Adolescent Health (Add Health), Currie and Tekin (2006) found that maltreatment doubles the risk of engaging in crime even when socio-economic status is controlled. Further they found that risk increases if children and youth experience multiple types of maltreatment with sexual abuse showing the largest impact. Severity was also an important predictor with more serious outcomes.

Fagan (2003; 2005), using data from the National Youth Survey (see block for a description of this study) found that adolescent physical abuse had immediate and enduring effects on the prevalence and frequency of self-reported offenses, including violent and non-violent crimes, drug use, and intimate partner violence. The analysis demonstrated a highly significant relationship between physical abuse and involvement in crime for all types of offenses, at all time periods, with maltreatment increasing the general offending and drug use by about 50% and doubling to tripling the odds of other offenses. Ireland, Smith and Thornberry (2002) found no relationship between childhood-only maltreatment and adolescent delinquency or drug use, but found that persistent maltreatment throughout the lifespan or adolescent-only maltreatment was predictive of later criminal behavior.

The association between maltreatment and later criminal behavior is not perfectly consistent, however. At least one study has found that childhood victimization was not significantly related to later violent behaviors (Hawke, Jainchill & DeLeon, 2003). They examined data from treatment entry to 5-year post-treatment for 446 adolescent clients in a therapeutic community.

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A large-scale study (Widom & Maxfield, 2001) sponsored by the National Institute of Justice (NIJ) followed 1,575 children from childhood through young adulthood. One group (908 subjects) consisted of substantiated cases of childhood abuse or neglect processed by courts from 1967 through 1971. A comparison group of 667 children, not officially recorded as maltreated, were matched to the abused group by age, race, sex, and family socio-economic level. Findings were that being abused or neglected as a child increased the likelihood of arrest as a juvenile by 59%, as an adult by 28% and for a violent crime by 30%. Maltreated children were younger at the time of their first arrest, committed nearly twice as many offenses, and were arrested more frequently.

In contrast to Widom’s 1989 study, maltreated females in the Widom and Maxfield study were at increased risk for violent offenses (in the prior research, females appeared at risk for criminal offenses but not for violent offenses). Males showed higher rates of offenses than females, however, abused or neglected females were 73% more likely than non-abused females to be arrested for offenses such as property crimes, substance abuse offenses, disorderly conduct, curfew violations or loitering.

Findings about type of abuse related to criminal history were mixed. In the Widom and Maxfield study (2001) those who were physically abused or neglected (as opposed to those who were sexually abused) were at highest risk for criminal offenses. However, others such as Swanston et al., 2003; Siegel & Williams, 2003; Herrera & McCloskey, 2003 have found that a history of childhood sexual abuse also predicts criminal behavior and arrests.

Exactly how maltreatment influences the development of aggression is not well-understood. Lee and Hoaken (2007) have speculated that physical abuse and neglect may have different effects. Physical abuse may cause children to be overly vigilant and to perceive hostility from others whereas neglect may result in emotional dysregulation. Kotch et al. (2008) examined the effects of various forms of maltreatment on later aggression. Using LONGSCAN data from 1318 at-risk children recruited from four U.S. cities and one southern state, researchers found that only early neglect was significant in predicting aggression scores at age 8. Other researchers have found that neglect is a stronger predictor of later criminal behavior (Grogan-Kaylor & Otis, 2003) or a combination of neglect and punitive discipline are critical factors for criminal outcome (Knutson, DeGarmo, & Reid, 2004).

Researchers are starting to examine factors that influence the association between childhood maltreatment and criminal behavior. Salzinger, Rosario and Feldman (2007) found evidence that attachment to parents lessened the risk for violent delinquency for maltreated children. Also, similar to Thornberry et al. (2001), the duration of the abuse was important, as abusive patterns by parents that continued into the youth’s adolescence were clearly associated with violent delinquency outcomes. The role of stigmatization and internalizing symptoms was found to be indirectly related to later delinquency for youth who were sexually abused. Authors speculated that these symptoms may place youth at risk for problems with regulating anger which heightened risk for delinquent behaviors (Feiring, Miller-Johnson & Cleland, 2007).

There is increasing interest in identifying protective factors. In January, 2009, the U.S. Department of Justice released a report, Girls Study Group: Understanding and Responding to Girls’ Delinquency (Hawkins, Graham, Williams, & Zahn, 2009). Four factors of resiliency examined are: school connectedness; support from or presence of a caring adult; school success (grade point average); and religiosity. The authors note that there is interaction between risk factors and protective factors. Some protective factors may not be strong enough to mitigate the influence of risk factors that may have endured since childhood.

For pregnant adolescents, prior experience with multiple forms of child maltreatment is prevalent (Romano, Zoccolillo, & Paquette, 2006). In a prospective study of 574 children followed from age 5 to age 21, Lansford et al. (2007) found that maltreated youth were more likely to become a teen parent, to have been pregnant as a teen, or to have impregnated someone while not married. Anda et al. (2001), examining 4,127 male adults, found exposure to physical or sexual abuse or to a battered mother increased the risk of involvement in teen pregnancy during both adolescence and during adulthood.

**Promiscuity/Prostitution/High Risk Sexual Behaviors**

According to Wilsnack et al. (2004), various processes that result from being a child sexual abuse victim may be related to unsafe sexual behavior as an adolescent or adult. These include: developing attitudes about sexuality that encourage early onset of voluntary sexual activity; learning to trade sex for rewards; and developing multiple and unstable sexual relationships because the childhood sexual abuse has reduced the ability to trust a sexual partner and become intimate. Child sexual abuse is associated with an earlier age of sexual intercourse, with alcohol-related risky sexual behaviors, and with a higher number of sexual partners. Wilsnack and colleagues stress, however, that childhood sexual abuse is only one of several early experiences that predict an increased likelihood of high-risk sexual behaviors. Childhood sexual abuse combines with early alcohol use and early sexual intercourse to predict patterns of sexual risk-taking.

Promiscuity and prostitution are reported with increased frequency by women with a history of childhood sexual abuse (Berkowitz, 2000; Koenig & Clarke, 2004; Simon & Whitney, 1991; Widom & Kuhns, 1996; Widom & Maxfield, 2001). While a history of childhood sexual victimization is not uncommon among women with HIV infection (about a third to a half are affected), the relationship is likely complex and research has not yet established a causal model (Koenig & Clarke, 2004). In their review, Purcell et al. (2004) say that higher rates of sexually transmitted diseases, including HIV, are evident in men with a history of childhood sexual abuse. These are likely due, in part, to elevations in high-risk sexual behaviors such as prostitution, unprotected sex, and having many partners. Greater frequency of childhood abuse and greater coercion were related to greater levels of sexual risk behaviors. These findings are similar to those of Gore-Felton and Koopman (2002) in a sample of 64 men and women living with HIV/AIDS.

**Partner Violence**

The maltreated child learns to identify himself or herself as the cause of the abuse and thus may fail to learn self-protection. The pattern can continue into adulthood. Survivors minimize their partner’s abusive behavior, believing it will improve if they alter their own behavior (Hein et al., 2009). Widom (1989) found that among children who witnessed family violence, about 16-17% report later marital aggression. Widom concluded that observing marital violence or extreme marital discord may be as harmful to children as is physical abuse. Verbal abuse by parents has also been related to later dat-
ing violence in a sample of college women (Rich et al., 2005). Further, the researchers found that adolescent dating violence predicted later dating violence.

A history of sexual abuse as a child has been related to partner violence as an adult (Banyard, Arnold & Smith, 2000). For example, Feerick, Haugaard & Hien (2002) found that the odds of experiencing partner violence were five times higher for women with a history of sexual abuse than for women with no history of sexual abuse and Lansford et al. (2007) in a prospective study of 574 youth followed from age 5 to age 21 found adolescents who had been abused prior to age 5 were more likely to be the perpetrators of romantic relationship violence.

Over 6,900 university students in 17 nations (6 in Europe; 2 in North American; 2 in Latin American; 5 in Asia; Australia; and New Zealand) at 33 universities participated in a study measuring the relationship between neglect experienced as a child and dating violence (Straus & Savage, 2005). Both males and females participated in the survey. The researchers found that each increase of 1 point on the scale measuring neglectful behavior of parents was associated with an 11% increase in the probability of assaulting a dating partner and a 21% increase in the probability of injuring a dating partner. The researchers believe that their results are consistent with developmental theory by Tremblay (2003). His research suggests that children tend to use aggression to express anger, to remove noxious conditions, or to achieve goals. Care by a responsible parent and consistent discipline are needed for the child to learn nonaggressive alternatives to problem-solving.

### Sexual Victimization as an Adult

One of the most troubling long-term outcomes to childhood abuse is the increased risk to be re-victimized repeatedly. Re-victimization often occurs in the context of intimate partner relationships (Arias, 2004; Hein et al., 2009). Individuals who are child abuse victims may not have learned to identify signs of danger and may be unable to assert self-protective impulses. Use of alcohol or drugs can heighten the risks.

Physical abuse as a child has been linked to vulnerability for sexual victimization or being a victim of violence as an adult (Fergusson & Lynskey, 1997). For example, Feerick et al. (2002) found that women with a history of physical abuse were eight times more likely than non-abused women to experience adult sexual victimization.

Childhood sexual abuse, however, is one of the strongest predictors of adult sexual assault (Doll, Koenig & Purcell, 2004). For example, a study by Maker, Kemmelmeier and Peterson (2001) found that sexual abuse occurring before age 16 was the only predictor of later sexual assault among comorbid risk factors. A literature review by Rich, Combs-Lane, Resnick and Kilpatrick (2004) found that data from representative samples indicated that women with prior histories of childhood sexual abuse were at least two to three times more likely to experience sexual assault as adults. This is similar to other findings (Cloitre et al., 1996; Moeller, Buchmann, & Moeller, 1993; Wyatt, Guthrie, & Notgrass, 1992).

Ferguson, Horwood & Linsky (1997) found for their sample of 18-year-olds that greater severity of childhood sexual abuse was related to having more than 5 partners, unprotected sexual intercourse, first intercourse before age 18, and re-victimization sexually as an adult. Severity was also found to be important in the review by Rich et al. (2004). Participants with more severe histories reported a higher prevalence of adult sexual assault. Schaaf and McCane (1998) found the greatest risk of revictimization in the group that had experienced both sexual abuse and physical maltreatment as a child.

Classen, Palesh, and Aggarwal (2005) reviewed 90 empirical studies. They found that child sexual abuse doubled or even tripled the risk of sexual re-victimization for adult women. Additionally, the severity and length of previous sexual victimization differentiated between those who were re-victimized and those who were not, with greater severity and longer duration associated with greater risk of re-victimization.

The likelihood of sexual re-victimization appears to increase with accumulated trauma. For example, those who experienced force or both physical abuse and child sexual abuse are at higher risk compared to those with only one form of maltreatment. Multiple maltreatments (physical; emotional; sexual; neglect) also increased the risk of adult re-victimization (see also the ACE studies, separate article, this issue).

According to some researchers, the authors reviewed, age at the time of victimization was also important. Sexual assault during adolescence appeared to heighten the risk of re-victimization, compared to sexual victimization at earlier ages. The victim’s relationship to the perpetrator is a factor in risk as well. Incestuous abuse is associated with the highest risk for adult victimization, followed by peer abuse, and then non-familial abuse.

Similar to the ACE study (see separate article, this issue), Classen et al. (2005) found that family factors were associated with re-victimization as an adult. Experiencing changes in caregivers, living with a family member who has drug or alcohol addiction, a high level of family conflict, family with mental health problems, poor family functioning (less cohesion, less emotional expression, controlling)– all have an impact and increase the risk of re-victimization.

Within a group of survivors, some women are more likely to be sexually re-victimized than others. Women who show problems with being nonassertive, socially avoidant, self-sacrificing, and exhibit neediness as well as those with dissociative symptoms are more likely to engage in sexually risky behaviors and to be revictimized. These individuals often “can’t say ‘no’” and place others’ needs ahead of their own (Spiegel, Claussen, Thurston & Butler, 2004). Likewise, depressed women with a history of childhood sexual abuse are at higher risk for re-victimization (Gladstone et al., 2004).

**Relationship Dysfunction**

Persons traumatized as children often experience inadequate emotional regulation skills. These include affective liability, behavioral impulsivity, and aggression. Trouble with affect regulation and anger management cause difficulty in relationships including friendships, family relations, and even relationships with children. For survivors who are in a constant state of hyperarousal, relationships can be erratic as the individual struggles to control distress by withdrawal or anxiety or outbursts (Hein et al., 2009). Divorce is significantly higher among women with abuse histories (Moeller et al., 1993).

Attachment styles developed in early childhood generally remain stable throughout life. According to a review by Hein et al. (2009), research on adult attachment indicates that insecure attachment predominates among survivors of child maltreatment. Those with insecure attachments are not likely to self-disclose, or turn to others when in distress. They experience lower levels of intimacy in close relationships, are hyper-sensitive to rejection, and uncomfortable with closeness. In addition, survivors report significantly less relationship satisfaction, poorer communication, and lower levels of trust in their partners than women with no history of sexual abuse (DiLillo & Long, 1999).

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Maltreatment: Long-Term Effects

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Panic and Anxiety Disorders

In a study of 126 female patients referred to a mood disorders clinic (Gladstone et al., 2004), depressed women with a history of childhood sexual abuse were more likely to be diagnosed with a panic disorder than depressed women without a maltreatment history. Fergusson and Lynskey (1997) in an 18-year longitudinal study of 1,265 children born in 1977 found that those exposed to physical abuse showed greater tendencies to anxiety disorders. In a national comorbidity survey (Molnar et al., 2001) females with a history of childhood sexual abuse were significantly more likely to be diagnosed with a panic attack, a panic disorder, or agoraphobia. This is similar to findings of Harkness and Wildes (2002) where a multivariate analysis revealed that severe sexual abuse was the adverse childhood experience most strongly associated with anxiety that was co-morbid to depressive reactions.

Serious Mental Illness

Child maltreatment appears to impact the course of serious mental illness. In a study of 40 inpatient adults diagnosed with schizophrenia, those with maltreatment histories showed differences from those who were not abused or neglected as children. Patients with a maltreatment history were significantly more likely to have poor peer relationships in childhood, greater academic difficulty, an earlier age at first hospitalization, a greater number of hospitalizations, and elevated symptoms of anxiety, depression, and suicidal thinking (Schenkel, Spaulding, DiLillo, & Silverstein, 2005).

Post-Traumatic Stress Disorder (PTSD)

A prospective study of 1,196 subjects under age 12 who were victims of substantiated child abuse and neglect between 1967 to 1971 were examined in adulthood between 1989 and 1995 (Widom, 1999). Childhood victimization was associated with the later development of PTSD with 37.5% of those with a history of child sexual abuse, 32.7% of those who were physically abused, and 30.6% of those experiencing neglect meeting the DSM-III criteria. Widom and others (Boney-McCoy & Finkelhor, 1996) note that family, individual, and lifestyle variables also place individuals at risk and contributed to the development of PTSD. In a national comorbidity survey, both males and females who had a history of childhood sexual abuse were significantly more likely to be diagnosed with PTSD (Molnar et al., 2001). Adolescents with a combined sexual abuse and physical abuse history showed the highest lifetime rates of PTSD (34.1%), followed by youth who experienced physical abuse only (16%), then those who experienced sexual abuse only (11.1%). Adolescents who were depressed with no history of maltreatment had lifetime rates of 9.7% for PTSD (Danielson et al., 2005).

Depression

While nearly all forms of childhood maltreatment are significantly related to later depression (Bifulco et al., 2002), some research has demonstrated that youth who are sexually or physically abused are at greatest risk for developing depression (Fergusson & Lynskey, 1997) while others (Bifulco) maintain that psychological abuse is the most damaging. Psychological maltreatment frequently co-occurred with other forms of maltreatment and multiples of abusive experience were more predictive than any one subtype. Further, the presence of depression in adolescence is a significant risk predictor for major depression in adulthood (Harrington et al., 1990, cited in Danielson et al., 2005). Additionally, depressed youth and adults are at significantly higher risk for suicide (see section on page 17).

For example, a longitudinal study of over 5,000 youth who entered the child welfare system due to a maltreatment investigation (RTI, 2008) showed that 27.5% of young adults in the sample were in the clinical range for major depression and an additional 10.2% reported clinically high levels of experiencing intrusive thoughts associated with past trauma. Danielson et al. (2005), using a subsample of youth from the National Survey of Adolescents, found that those who had experienced sexual abuse or physical abuse or both endorsed significantly more symptoms of depression than youth with no abuse history. Those who experienced a series of abusive events reported more serious levels of depression. Kaplan et al. (1998) found that abused adolescents were seven times more likely to develop dysthymia or major depression than a matched sample of non-abused individuals.

Lansford et al. (2007) found that physical abuse predicted anxiety or depression through age 16 but was not a significant predictor by age 21. These researchers wondered if the long-term effects of internalizing symptoms may abate in early adulthood. Shaw and colleagues (2004) examined the incidence of depression in adults and determined its relationship to emotional support from parents early in life. A total of 2,905 respondents were the sample. Parental support was inversely associated with early parental support. That is, adults who received little emotional support and caring from their parents in their early years were at an elevated risk for depressive symptoms as adults.

In a prospective sample of 641 cases of confirmed child maltreatment in 1970 compared to 510 matched individuals with no documented abuse or neglect, both males and females with an abuse history had more symptoms and diagnoses of Dysthymia (a chronically depressed mood for more than 2 years) (Horowitz et al., 2001). Women with depression who had a history of childhood sexual abuse developed symptoms at a younger age compared to depressed women with no maltreatment history (Gladstone et al., 2004). In a study of 513 low-income women where 105 had experienced childhood sexual abuse, the abuse survivors were almost three times as likely to be depressed as the comparison women (Zuravin & Fontanella, 1999).

Depression could mediate other negative outcomes, according to Arias (2004). Depression might lead to poor self-care and increased medical symptoms. Depression might affect perception of health. Depression might lead to inactivity or increased smoking both of which have medical ramifications. Depression could lead to self-medication and trigger substance abuse or addiction.

The implications for clinicians are several. When adolescents or adults report depression, a comprehensive assessment should include inquiry into past maltreatment. Specific questions about the characteristics of the abuse can assist in gaining understanding on the etiology of the symptoms and help clarify needs for more intensive treatment.

Bipolar Disorder

Garno et al. (2005) studied 100 patients with bipolar disorder who were consecutively evaluated in the Bipolar Disorders Research Clinic of the New York Presbyterian Hospital. A history of severe childhood abuse was found in approximately half of the sample. Multiple forms of abuse (physical/sexual/emotional) were associated with more extensive suicidality, rapid cycling, and co-morbid substance use. While maltreatment was not seen as a causative factor in developing Bipolar disorder, the findings were consistent with the idea that multiple forms of childhood maltreatment can worsen a disorder and are associated with more extensive and more severe symptoms.
Suicidal Thinking and Behaviors

Maltreated youth and those who witness family violence appear to be at higher risk for suicidality and the risk may extend into adulthood. Suicidal thinking is linked to other outcomes/symptoms such as depression, aggressive and delinquent behaviors, substance abuse, and poor problem-solving and impulse control (Fergusson & Lynskey, 1997). Suicidal thinking is also linked to race (white children are more likely to consider suicide) and gender (after mid-adolescence girls are more likely to consider suicide) (Thompson et al., 2005) as well as the severity of the maltreatment, with more severe sexual or physical abuse linked to heightened suicidality (Bryant & Range, 1997).

One study examined suicide ideation in 8-year-old children who were maltreated (Thompson et al., 2005). Using LONGSCAN data, the researchers examined the association between maltreatment and suicide ideation. They found that three maltreatment variables were associated with suicidal thinking: the severity of physical abuse; the chronicity of the maltreatment; and the presence of multiple types of maltreatment. The child’s substance use also interacted significantly to predict suicidal ideation.

Finzi et al. (2001) assessed depression and suicidality in 114 children ages 6 to 12. Those who had been physically abused had significantly higher levels of depressive symptoms and suicidality than the other two groups (neglected or no maltreatment). Others have found that sexual abuse victims are twice as likely to report self-destructive behaviors including self-mutilation, disordered eating, and runaway behaviors (Wright et al., 2004).

Martin et al. (2004) undertook a cross-sectional study of gender specific relationships between self-reported child sexual abuse and suicidality in a community sample of adolescents. Hopelessness, depression, and family dysfunction mediated suicidality in the sample of 1,106 adolescent girls. Girls who reported current high distress about sexual abuse had a three-fold increase risk of suicidal thoughts and plans compared to non-abused girls. For the 1,369 boys, self-report of sexual abuse was strongly and independently associated with suicidal thoughts, plans, threats, deliberate self-injury and attempts after controlling for current levels of depression, hopelessness, and family dysfunction. Fifty-five percent of the sexually abused boys had attempted suicide compared to 29% of sexually abused girls.

A longitudinal study of over 5,000 youth who entered the child welfare system due to a maltreatment investigation (RTI, 2008) showed that 27.5% of young adults in the sample were in the clinical range for major depression and an additional 10.2% reported clinically high levels of experiencing intrusive thoughts associated with past trauma. Women with a history of childhood sexual abuse were more likely to engage in deliberate self-harm behaviors and suicide attempts than depressed women without a child maltreatment history (Gladstone et al., 2004) and in a matched sample of African-American women, those with a maltreatment history were more likely to have a suicide attempt (Meadows & Kaslow, 2002). A study of suicidal behavior in patients with Borderline Personality Disorder (Soloff, Lynch & Kelly, 2002) found that the odds of patients with a history of being a childhood sexual abuse victim committing suicide was over 10 times that of a patient who was never sexually abused.

Dube et al. (2001) in a retrospective study of 17,337 adults, found the lifetime prevalence of a suicide attempt was 5.4% for women and 1.9% for men. The risk increased 5-fold for those who had experienced emotional abuse as a child and over 3-fold for those with a history of physical or sexual abuse.

These findings suggest that self-reported thoughts of suicide are fairly common among children and adolescents who have been maltreated and among adults with a maltreatment history. Thus, professionals who interact with children, youth and young adults with histories of maltreatment should screen for suicidal thinking. This screening appears to be especially important if the maltreatment was ongoing, as the effects of maltreatment appear to be cumulative. Clinicians should be alert to the possibility of continued maltreatment in the client’s present since dating violence and domestic violence are more prevalent among those who have been maltreated as children.

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Personality Disorders

Personality disorders are ingrained and enduring patterns of behavior. The symptoms are not as dramatic as disorders coded on “Axis I” in the Diagnostic System, but the patterns pervade all aspects of the person’s personality and actions. The patterns begin in adolescence or early childhood.

According to Johnson et al. (1999), persons with documented childhood abuse or neglect are more than four times as likely as those who were not maltreated to be diagnosed with a personality disorder during early adulthood. Childhood physical abuse, sexual abuse, and neglect were each independently associated with elevated symptoms of personality disorder. These findings are similar to findings of Tyra, Wyche, Price, and Carpenter (2009) that physical/sexual abuse and emotional abuse/neglect each were associated with elevated symptoms of all three personality disorder clusters. Elevated symptoms included paranoid, borderline, avoidant, dependent, obsessive-compulsive, and depressive personality disorders. Horowitz et al. (2001) also found an elevated risk of personality disorder for both males and females. In a prospective study of 641 confirmed abuse cases in 1970, both males and females were more likely than matched controls to have diagnoses of Antisocial Personality Disorder.

Battle and her colleagues (2004) sought to determine the frequency of childhood maltreatment among individuals with four common personality disorders: Borderline Personality Disorder; Schizotypal Personality Disorder; Avoidant Personality Disorder; and Obsessive-Compulsive Personality Disorder. They used data from the Collaborative Longitudinal Personality Disorder Study which involved four U.S. research sites: Boston; New Hampshire; New York; and Providence. Subjects were 600 individuals aged 18 to 45 years.

The rates of reported childhood abuse and neglect among the 600 participants was generally high with 73% reporting some form of childhood abuse, 82% reporting neglect, and 34% reporting sexual abuse. Battle and colleagues found that Borderline Personality Disorder was most closely associated with child maltreatment of multiple types. (This finding is similar to other research such as Briere & Zaidi, 1989). Having Borderline Personality Disorder was a predictor of abuse (emotional; verbal; caretaker and non-caretaker sexual abuse) and neglect (physical neglect; emotional withdrawal; emotional denial; lack of protection). Borderline Personality Disorder was associated with more types of abuse and neglect than other personality disorders.

Other personality disorders were also associated with child maltreatment. For example, a total of 33% of those with Obsessive-Compulsive Personality Disorder reported non-caretaker sexual abuse. Females across all personality disorder types were more likely than males to report caretaker sexual abuse and two types of childhood neglect (parentification; lack of protection).

Homelessness

Studies of homeless persons have found remarkably high prevalence of adverse childhood experiences such as out-of-home care or runaway behaviors (see VCPN, Volume 64 for a detailed summary of the literature about homeless families). A study of a nationally-representative sample of persons who had had at least one incident of homelessness compared those individuals to persons who had never been homeless (Herman, Sussor, Struening & Link, 1997) found that lack of care (neglect) from a parent during childhood increased the likelihood of homelessness as an adult by an odds ratio of 13. Persons who experienced physical abuse were 16 times more likely to experience homelessness as an adult. Sexual abuse during childhood showed a non-significant trend towards homelessness. However, if the individual had experienced both lack of care and either sexual or physical abuse, he or she was 26 times more likely to have been homeless as an adult. The authors conclude that maltreatment in childhood is a powerful risk factor for homelessness.

Victimizing Others

For some child victims, the cycle repeats as they victimize others. According to a review by Malinosky-Rummell and Hansen (1993), approximately 30% of physically abused or neglected individuals maltreat their own children. A significant minority of victims will abuse others, either as children or later as adults. For example, in a study of 595 men, 257 reported some form of childhood abuse. Of these 257, 38% reported perpetration by themselves, either physical or sexual. The number from the total sample who had perpetrated violence against children was 126 individuals. Of these 126, 70% reported being abused in childhood. Thus, most perpetrators had a history of being a victim but most victims did not engage in perpetration (Lisak, Hopper, & Song, 1996).

Parenting

There is an increasing body of literature examining the effects of maltreatment and childhood trauma on the capacity to parent a child. A review by Hein et al. (2009) found that parents’ own abuse histories are risk factors for negative parenting behaviors. Findings include increased use of punitive, aggressive, and physical discipline. Higher levels of trauma exposure relate to decreased parenting satisfaction, reports of child neglect, psychological aggression, and a history of child protective services reports.

The risk of sexual abuse of a child increases if the mother is a survivor of childhood sexual abuse (McCloskey & Bailey, 2000; Oates, Tebbutt, Swanston, Lynch & O’Toole, 1998). If the mother is also abusing substances, the risk is even higher (Hein et al., 2009). Women with sexual abuse histories may expose their children to unsafe situations with boyfriends or even her own childhood perpetrator.

Outcomes such as depression and substance abuse can impair parenting ability (see VCPN, volumes 56 and 59). Criminal behaviors may mean parents are incarcerated, with negative effects on the child (see VCPN, volume 81).

While an abuse history is a risk factor, it is important to note that most parents with a history of childhood abuse find ways to interrupt the detrimental cycle. Among adults who were abused as children, approximately a third will abuse their own children (Belsky, 1993; Kaufman & Zigler, 1987, both cited in Hein et al., 2009).

Resilience

It is important to note that intergenerational transmission of violence is not inevitable. A large portion of maltreated children do not succumb. What factors or experiences allow some children to thrive despite abuse? What protective factors buffer the children who do not experience negative outcomes?

One protective factor that has been associated with positive outcomes for maltreated children is the presence of social support through a stable and supportive caregiver (Houshyar & Kaufman, 2005) or through friends (Pepin & Banyard, 2005). A supportive and consistent caregiver has been associated with many positive outcomes such as better school achievement, housing stability, better parenting skills, and decreased likelihood of mental and emotional disorders.

Sheridan, Eagle, and Dowd (2005) maintain that resilience must be understood in an ecological perspective. This approach attends to both the characteristics of the family and to reciprocal interactions of the family system. In this view, resilience is the result of a process in which interactions between risks and protective factors mediate outcome. The family’s ability to adapt to adversity is a multi-determined process that occurs over time and responds to complex and changing conditions.

The importance of family connectedness in promoting adolescent health was demonstrated through the National Longitudinal Study on Adolescent Health. For the 90,000 students surveyed, family connectedness protected against emotional distress, suicidal
Preventing Sexual Revictimization

As noted in the main article, child victims of sexual abuse are at greatly increased risk for being victims of adult sexual assault. According to a literature review by Classen, Paleish and Aggarwal (2005), the prevalence rates for revictimization ranges from 10% to 69%. A meta-analysis of 19 empirical studies of adult females (Roodman & Clum, 2001) found that across various samples, including research with national probability samples and college, community, and clinical samples, there is a moderate overall effect size of .59, indicating a significant relationship between child sexual abuse and adult sexual assault.

Identifying a group of individuals at risk for adult sexual abuse allows a more focused approach to prevention and the development of specific strategies that might be more effective for this particular group (Roodman & Clum, 2001). In order to understand the reasons for the increased risk and in order to develop prevention strategies targeted to those who have been sexually victimized as children, researchers are examining the factors causing their increased vulnerability to adult sexual assault.

There is no consensus regarding the constellation of attitudes and behaviors that increase risk for sexual assault (Blackwell, Lynn, Vanderhoff, & Gidycz, 2004). However, the authors say that research has identified some variables that mediate the relationship between being a victim of child sexual abuse and adult revictimization. These variables include: internalized blame; PTSD; higher level of sexual activity; and alcohol misuse.

According to the review by Classen et al., (2005), women who were revictimized had a significantly higher rate of suicide attempts compared to women who had been assaulted only as adults. They were also more likely to have a current or lifetime diagnosis of PTSD. Women who were revictimized were at greater risk for a dissociative disorder compared to women who were non-abused or survivors of adult sexual assaults.

Severe mental illness appears to increase the likelihood of revictimization. A number of sexual behaviors were also associated with sexual revictimization in women. These included a greater number of sexual partners, having brief sexual relationships, engaging in prostitution, and engaging in sex frequently.

Re-victimization appears to negatively impact information processing and threat detection, according to reviews by Classen et al. (2005) and by Macy (2007). Revictimized women appear to take longer to recognize risky situations. Also, trauma consequences may impact a woman’s contact with potentially perpetrators, according to Macy (2007). For example, a woman who uses substances to manage PTSD symptoms may be exposed to a greater number of perpetrators while increasing their degree of vulnerability by impairment due to the substance use.

Prevention Programs

The data on revictimization offers a strong rationale for preventing initial occurrences of sexual assault. It also supports the development of effective programs for individuals who have previously been victims of sexual violence. Rape prevention programs that are effective for women with no history of sexual victimization will not necessarily have the same success with women who are prior victims. Prevention programs may need to be modified for women who have already been victimized. For women with a prior history of victimization, programs may need to address individual dynamics that increase the risk for repeated victimization (Classen et al. 2005). These women, for example, may require multiple exposures to the materials before mastery is achieved.

Blackwell, et al. (2004) reviewed programs designed to prevent sexual re-victimization. Due to considerable variations in the programs and to a lack of common outcome variables, it is difficult to draw conclusions. Still, the authors offer some observations.

- In terms of attitude change, virtually any program appears to be better than no intervention. Nearly all of the programs reviewed showed changes in attitudes, especially concerning rape myths. The simple act of exposing participants to information about sexual assault served to change attitudes.
- Programs that contained multiple formats (such as discussion, role-play, didactic presentation) appeared more effective in changing attitudes when compared to programs that consisted of a single method of education.
- More comprehensive programs that were broad in scope and in-depth maximized gains.
- In order to take protective action against a threat, individuals must perceive that they are vulnerable and also believe that they can overcome the threat. The increased ability to identify a threat coupled with increases in self-efficacy may be critical components to the successes of an intervention.

Macy (2007) examined intervention and prevention efforts from the perspective of coping strategies. Adaptive coping strategies, she argues, have been shown to protect women from re-victimization and mental health problems while disengaged coping strategies have been strongly related to distress and further victimization. Adaptive coping includes positive problem-solving, seeking support, seeking information, and gaining a sense of control over life events. In addition, women need to learn proactive strategies (knowing signs and signals of potential danger; learning to screen the environment for threats; actively avoiding high-risk situations; learning to disengage from high-risk situations; building resources; reflecting and evaluating preliminary coping efforts) and resistance and defensive coping (such as the “Assess, Acknowledge, Act” model).

Efforts to learn more about how to reduce risk for revictimization are hampered by limited research. What research exists is difficult to evaluate because of a lack of a universal definition for revictimization and lack of consensus on how to measure variables that might be important. Since most studies have utilized college students as subjects, little is known about how risk for revictimization might vary for women of differing ethnicities, cultures, socioeconomic status, and physical abilities. Little is known about resiliency and the strengths, resources and capabilities of women who are not re-abused. Most research has been cross-sectional whereas longitudinal studies might have greater promise (Macy, 2007).

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thoughts and behaviors, violence, a young age at sexual debut, and use of cigarettes, alcohol, and marijuana (Resnick et al., 1997). As discussed earlier, protective factors for delinquent behavior in girls include a protective, caring adult, school success, school connectedness, and religiosity (Hawkins et al., 2009) as well as perceptions that teachers are fair and feeling loved and wanted (McKnight & Loper, 2002).

Family connectedness is similar to family cohesion. The degree of emotional connectedness can vary from enmeshed (very high) to disengaged (very low). Connected families have a moderate to high degree of cohesion with emotional closeness while maintaining friendships and leisure activities outside the family unit (Sheridan et al., 2005). Family adaptability or flexibility refers to the family’s ability to modify rules, roles, and leadership (Sheridan et al., 2005). Similar to family cohesion, moderate levels of adaptability allow for healthier functioning than families organized along the extremes.

While the majority of research has centered on middle childhood and adolescence, there are indications that developmental competence in early childhood may also be a powerful influence. According to a review by Werner (2005), both the Kauai Longitudinal Study and the Minnesota Parent-Child Project have shown that an early history of positive adaptation plus supportive and consistent care influences children’s adaptation and ensures that they will utilize both formal and informal sources of support in the environment at later stages in life. For those who become troubled teenagers, exposure to more positive interactions with primary caregivers in the first two years engendered a sense of trust that allowed for recovery in the third and fourth decade of life. When the links between resources and outcome were examined, those who made successful adaptations had more sources of support and mothers who fostered autonomy in early years.

Werner (2005) identified four clusters of protective factors. The first was *maternal competence* (the proportion of positive interactions with the infant as well as the mother’s age and education). The second was *the number of sources of support* available to the child between the ages of 2 and 10 years. Third was the *scholastic achievement and competence* by age 10 (a cluster that included IQ). Fourth was the child’s *health status*.

Since the accumulation of risk factors (the number of risk factors) rather than the presence of specific risk factors appears to be crucial in poor outcome, resilience can be increased if the number of risk factors is reduced. Stresses can act in an interactive or additive fashion (Jaffee, 2005).

This rather extensive review of long-term effects of maltreatment underscores the need for early intervention, promotion of resilience, and prevention. The next issue of VCPN will feature some of Virginia’s prevention and early intervention efforts.

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