

ABSTRACT

JICHA, KARL ARMSTRONG. The Prevalence of Childhood Abuse and Adverse Outcomes Among Involuntarily Hospitalized Persons With Severe Mental Illness. (Under the direction of Dr. Virginia Aldigé Hiday.)

Objective: This paper examines the prevalence of childhood abuse and adverse outcomes among 188 involuntarily hospitalized patients with severe mental illness in the public mental health system. The sample is a high-risk group for both childhood abuse and adverse outcomes as a result of their disadvantaged status and because hospitalization was based on their alleged dangerousness to others or themselves. **Methods:** Extensive interviews and clinical records provided data on childhood abuse, substance problems, homelessness, adult criminal victimization, and clinical and sociodemographic characteristics. **Results:** Childhood abuse was highly prevalent among this sample. More than half (58.0%) reported a history of childhood abuse (36.2% were sexually abused, 45.7% were physically abused, and 23.9% experienced both forms of abuse). In bivariate analyses, childhood physical abuse and the experience of both physical and sexual abuse were significantly associated with the adverse outcomes of homelessness and adult criminal victimization; but only the measure of combined abuse was significantly associated with substance abuse problems. In multivariate analyses, examining each isolated form of abuse and the co-occurrence of both and adding sociodemographic and clinical characteristics, only a history of experiencing both physical and sexual abuse was significantly associated with an adverse outcome. The analysis of each type of abuse on its own revealed that childhood physical abuse was not a significant predictor of either homelessness or adult victimization, rather, these significant relationships were the result of the co-occurrence of both childhood physical and sexual abuse. **Conclusion:** Prevalence of childhood abuse is high in this sample as is the rate of adverse outcomes in adulthood. Subjects who reported histories of both childhood sexual and physical abuse were more likely to experience adverse adult outcomes than those reporting childhood physical or sexual abuse on their own or no abuse.

THE PREVALENCE OF CHILDHOOD ABUSE AND ADVERSE OUTCOMES
AMONG INVOLUNTARILY HOSPITALIZED PERSONS WITH
SEVERE MENTAL ILLNESS

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PERSONAL BIOGRAPHY

I am currently a graduate student in the Department of Sociology and Anthropology at North Carolina State University. I was inspired to pursue research in the area of childhood abuse among persons with severe mental illness (SMI) as the direct result of an ongoing project with my committee chair, as well as a prior interest in the topic. I intend to continue conducting research on the subject of the adverse outcomes of childhood abuse in adulthood with a focus on the human life course. If you have any questions or are interested in pursuing studies in these areas I can be reached at the department or via email (kajicha@server.sasw.ncsu.edu).

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Introduction

The stressful experience of childhood abuse has been associated with a host of adverse outcomes that persist from childhood into adulthood. Studies of community and college samples have reported a statistically significant link between childhood abuse, primarily sexual abuse, and long-term effects on psychological and social development (Finkelhor et al. 1989; Jumper 1995; Kamsner 2000; Molnar, Buka, & Kessler 2001; Mullen et al. 1988; Paolucci, Genuis, & Violato 2001; Scott 1992). However, the relationship between childhood abuse and adverse outcomes among persons with severe mental illness has been comparatively neglected. The purpose of this study was to determine the prevalence of childhood abuse and the adult adverse outcomes of substance abuse, homelessness, and criminal victimization among persons with severe mental illness, who were recently involuntarily hospitalized, and to examine the relationship between childhood abuse and these adverse outcomes. Analyses included multivariate models with sociodemographic and clinical variables to control for other factors that could contribute to these adverse outcomes. This paper begins with a discussion of the theoretical relevance of examining childhood stressors and adverse outcomes among low status groups. This is followed by a review of the literature pertaining to the prevalence of childhood abuse among both advantaged and disadvantaged populations and adverse outcomes associated with childhood abuse. Next, the methods and measurement sections are presented, followed by the results, and then a discussion of the findings, contributions, and limitations of this study.

Substantive Themes of Theoretical Importance to Sociology

This study addresses an area of theoretical concern of direct interest to sociologists, the argument of how childhood events influence later adulthood outcomes. The life course perspective in sociology explains how turning points, such as the experience of childhood abuse, can alter the trajectory or

direction of an individual's life course (Wheaton & Gotlib 1997). A crucial moment in an individual's life history does not necessarily have to be a singular event or even a negative one to change the course of that person's life (Wheaton & Gotlib 1997). For the purpose of this study, however, we focus on the traumatic experience of childhood abuse as a turning point. We argue that this stressful event or series of events, occurring at an early stage in life, has long-term consequences that persist through adulthood.

The respondents in this study were disproportionately drawn from a segment of society characterized by its low status in the stratification system. Not only are they embedded in a lower-socioeconomic status group, but their position in society is further degraded by their mental illness. They are subject to more stressful conditions and their access to social, economic, and personal resources are restricted, affecting their ability to cope with adverse conditions. As a result, potentially stressful life circumstances and adverse outcomes are more common among these persons than among members of more advantaged groups.

Pearlin (1999) states that the "stress process" is composed of three components: 1) stressors, 2) social supports and coping resources, and 3) outcomes. Stress occurs when an environmental, social, or internal demand (stressor) requires a readjustment in an individual's usual behavioral pattern (Holmes and Rahe 1967). Stress can arise from three major sources: eventful experiences (life events), continuous difficult life conditions (chronic strains), and mini-events that occur during the course of a day (daily hassles) (Thoits 1995). Life events (turning points) are major changes that occur within a relatively short period of time (e.g., sudden job loss, death of a loved-one, divorce, or the birth of a child); chronic strains are persistent stressors which require readjustment over a prolonged period of time (e.g., a long-term physical ailment, poverty, living in a dangerous neighborhood, or marital conflict); and daily hassles are irritating, frustrating events that are regular features of everyday life (e.g., traffic jams, entertaining guests, and being overloaded at work) (Thoits 1995; Wheaton 1997).

Stress can result from both desirable planned events and undesirable unscheduled changes in the normal pattern of life. Scheduled events normally do not have negative consequences for mental health (Pearlin & Lieberman 1979). Thus, scheduled events such as a wedding may cause short-term stress, while not producing negative long-term health or mental health consequences. Similarly, not all negative stressors lead to negative outcomes over the long run (Thoits 1995). For example, while divorce may result in negative short-term outcomes such as drinking and depression, it can also have positive long-term effects such as heightened self-confidence and sense of self-mastery among women and greater interpersonal skills and willingness to self-disclose emotionally among men (Riessman 1990). Thoits (1994) also argues that individuals may sometimes deliberately bring about negative events to solve problems, such as getting divorced to end a long-term tumultuous relationship. Others have proposed that only unresolved negative events have harmful psychological consequence (Turner & Avison 1992).

For the purposes of this paper, we focus solely on the long-term impact of childhood abuse. Violent victimization, often in the form of childhood abuse, is strongly concentrated early in the life cycle and can have important implications for both personal and social development (see review in Macmillan 2001). The early part of the life course (childhood and adolescence) is the period in which the personal and psychological resources that guide decision-making are developed (see review in Macmillan 2001). Childhood abuse has been found to have a negative impact on both mental health and other areas of adult life functioning (Finkelhor et al. 1989; Herder & Redner 1991; Horwitz et al. 2001; Jumper 1995; Kamsner 2000; Kang et al. 1999; Kendall-Tackett, Williams, & Finkelhor 1993; Kendler et al. 2000; Molnar, Buka, & Kessler 2001; Mullen et al. 1988, 1993, 1996; Paolucci, Genuis, & Violato 2001; Scott 1992; Silverman, Reinherz, & Giaconia 1996; Widom 1999).

Childhood abuse can occur as either a single traumatic life event or as a continuous series of traumatic events over a long period of time. Childhood abuse is a particularly difficult stressor to resolve since it often invokes poor self-esteem and shame (Kendall-Tackett, Williams, & Finkelhor

1993; Mullen et al. 1996) and the event itself is often hidden from others by the victim. As a result, victims of childhood abuse would appear to be particularly vulnerable to adverse outcomes stemming from their traumatic experience.

People may react differently to the experience of childhood abuse. Researchers have found a significant relationship between childhood abuse, especially sexual abuse, and runaway behavior among girls (see review in Chesney-Lind & Sheldon 1992). Many girls respond to extreme stressors such as childhood abuse by running away from home and living on the streets, which leads to additional victimization (Chesney-Lind 1997 & 2001; Chesney-Lind & Sheldon 1992). Among girls, running away from home for any length of time often leads to prostitution and other criminal avenues such as selling drugs and petty theft (Chesney-Lind 1992, 1997, & 2001). Homelessness and their underage status leaves these girls with no other recourse as they try to stay alive on the streets (Chesney-Lind and Sheldon 1992). In turn, these activities leave them susceptible to exploitation and additional victimization (Chesney-Lind 1997; Chesney-Lind & Sheldon 1992). Males, on the other hand, may run away from home and join gangs that provide them with social support and even protection, but lead to criminal offending.

Many individuals are able to employ more adaptive behaviors and are able to overcome the risk of harmful outcomes. Coping mechanisms play an important role in an individual's ability to overcome negative life circumstances. Resources and strategies are both forms of coping mechanisms. Coping resources include self-esteem and personal mastery (Thoits 1995). Self-esteem refers to an individual's judgment of his/her own self-worth, while personal mastery is the extent to which people view themselves as being in control of the forces that affect their lives (Pearlin et al. 1981). These coping resources, in turn, influence the choice and/or effectiveness of the behavioral and cognitive coping strategies an individual employs when dealing with stressors (Thoits 1995).

Social support, a coping resource itself, refers to functions performed for an individual by family members, significant others, friends, coworkers, and social institutions such as the church, in times of

crisis (Lin & Ensel 1989; Thoits 1995). This support system can provide a number of valuable resources (e.g., love, sympathy, understanding, esteem, self-worth, or money to resolve a financial stressor) that can reduce the impact of stressors. In the case of victims of childhood abuse, particularly among lower-status groups, the lack of sufficient coping mechanisms and strong social support networks may make individuals more apt to experience stress resulting from the traumatic experience.

Stressors can affect peoples' lives both directly and indirectly (Pearlin 1989). Life events or chronic strains that are experienced first are termed "primary stressors", and stressors that occur as a result of these are referred to as "secondary stressors" (Pearlin 1989). The process of a serious primary stressor leading to additional secondary stressors is termed "stress proliferation" (Pearlin 1999). We have already discussed how childhood abuse can lead to homelessness. Childhood abuse can also lead to drug and alcohol abuse as a maladaptive coping strategy, and the substance abuse can serve as a major source of stress that produces additional negative outcomes such as marital problems or the loss of a job (Mullen et al. 1993; Stein et al. 1988; Straus & Kantor 1994; Windle et al. 1995). Thus, stress proliferation can leave individuals embedded in an accumulation of stressors that are different from the original ones (Pearlin, Aneshensel, & Leblanc 1997). This is also referred to as the "carry-over" effects of a stressor, as its effects can increase stressors in other areas of life (Thoits 1995). As a result, the effects of childhood adversities on adult adverse outcomes can be indirect, mediated through later sources of stress and low-self esteem (Turner & Butler 2003). Turner and Lloyd (1995) found that the experience of multiple traumatic events and accumulated lifetime trauma increase the chances of experiencing adverse outcomes such as psychological distress and psychiatric disorder. Thus, individuals who experience recurring abuse as children may be more likely to encounter adverse adult outcomes, especially if they encounter additional stressors throughout the life-course.

Pearlin (1989:241) states that sociologists have a significant stake in the study of stress because “it presents an excellent opportunity to observe how deeply well-being is affected by the structured arrangements of people’s lives and by the repeated experiences that stem from these arrangements.” Medical sociologists have long been interested in the social patterning of disease (Link & Phelan 1995). Links have been identified between mental health problems and a variety of social factors such as socioeconomic status, marital status, and gender (Turner, Wheaton, & Lloyd 1995). Over the last three decades, the stress paradigm has added to the pool of evidence concerning the association between social conditions and disease (Link & Phelan 1995).

In terms of social stratification, evidence suggests that while lower-status groups may not necessarily be exposed to more stressful life events or more undesirable events, they may encounter more undesirable events over which they have no control (Dohrenwend 1978). Studies also indicate that lower status, disadvantaged groups experience more chronic strains in their lives and are especially vulnerable to stressors (see review in Thoits 1995). They are subject to more stressful conditions as a result of their social environments. Furthermore, lower-status groups, such as the one examined in this study, have limited access to coping resources (Thoits 1984). Low status, being at the bottom, within systems of stratification, such as class, race and ethnicity, gender, and age may itself be a source of stress (Pearlin 1989).

Persons with severe mental illness also face the problem of labeling, rejection, avoidance, and violence by other members of society as a result of the negative cultural meanings associated with mental illness (Wright, Gronfein, & Owens 2000). The “modified labeling theory” proposed by Link and colleagues (1987) contends that persons with severe mental illness frequently experience negative labeling by society, which in turn, results in a spoiled identity that is linked to negative outcomes in terms of goal-achievement, social functioning, and self-esteem (Wright, Gronfein, & Owens 2000). This affects the ability of these persons to cope with chronic stressors and difficult life events.

Furthermore, negative labeling can severely hamper the development and maintenance of social support networks.

Living in or close to disadvantaged neighborhoods, is directly associated with stress and has a negative impact on health (Ross & Mirowsky 2001). Lower-class groups live in social environments that limit their access to adequate coping resources. Individuals who live in disadvantaged neighborhoods often lack economic and social resources that leave them vulnerable to physical and social disorder, which accounts for the association between neighborhood disadvantage and adverse health outcomes (Ross & Mirowsky 2001). The loss of informal social controls, low levels of educational attainment, single-parent families, poverty, and the lack of social ties between neighbors are all characteristics of disadvantaged neighborhoods (Sampson & Groves 1989; Sampson, Raudenbush, and Earls 1997). The lack of social integration and cohesion in these neighborhoods can affect an individual's ability to develop and maintain social supports and strong internal coping mechanisms needed to effectively combat acute and chronic stressors. High-risk behaviors such as drug use are common in disadvantaged neighborhoods as residents often adopt such destructive coping mechanisms as a way of countering stressful life events such as victimization, the sudden loss of a job, or divorce (Boardman et al. 2001).

Previous Research and New Issues

According to official reports collected in the The National Child Abuse and Neglect Data System (NCANDS), 879,000 children under the age of 18 were victims of childhood maltreatment in 2000. This number represents approximately 12.2 incidents of maltreatment per 1000 children in the United States. Nearly two-thirds of these cases were attributed to neglect, 19 percent to physical abuse, 10 percent to sexual abuse, and 8 percent to psychological abuse. These official reports of child sexual abuse rates are nearly four times as high for female victims as for male victims, although the overall

victimization rates are similar for both. Approximately half (51%) of the cases of childhood maltreatment occurred among white children, 25 percent among African American children, 15 among Hispanic children, and the remainder was spread across other minority groups.

The actual extent of childhood abuse, particularly sexual abuse, is likely much greater than indicated in official reports due to underreporting (Finkelhor 1984). It is estimated that only 5 to 10 percent of cases of childhood abuse are officially reported by health and welfare professionals (Anderson et al. 1993; Downs & Harrison 1998). Survey results are one means of revealing the discrepancy between official reports and the actual prevalence of childhood abuse. However, results range considerably due to differences in methodologies and populations with samples being taken from both clinical and community settings, and often focusing solely on women. Definitions of abuse may also differ across studies (Cloitre et al. 2001). Nationally representative surveys and those of college students examining the prevalence of childhood sexual abuse among youths and adult males and females report rates between 13.5 and 27 percent among females and between 2.5 and 16 percent among males (Finkelhor et al. 1989; Lisak, Hopper, & Song 1996; Molnar, Buka, & Kessler 2001; Rosenberg 2001). For childhood physical abuse, community surveys and college student studies report up to 34 percent of males and between 6.4 and 7.8 percent of females having experienced this form of abuse before the age of 18 (Lisak, Hopper, & Song 1996; Rosenberg 2001; Silverman, Reinherz, & Giaconia 1996). However, several international studies reported physical abuse rates as high as 17.7 percent among females in community samples (Coid et al. 2001; Irwin 1999).

Disadvantaged groups have reported rates of abuse higher than those found among the general population. Studies of homeless, impoverished women have reported disproportionately high rates of childhood sexual and physical abuse (Browne 1993; Goodman 1991; Stein, Leslie, & Nyamathi 2002). In one of these studies, Stein, Leslie, and Nyamathi (2002) found that 36 percent reported experiencing childhood sexual abuse and 31 percent physical abuse. Goodman (1991) found slightly

higher rates with 42 percent reporting childhood sexual abuse and 60 percent physical abuse. Among an exceptionally vulnerable group, homeless women with severe mental illness, Goodman, Dutton, and Harris (1995) found even higher rates of childhood sexual abuse (87%) and physical abuse (65%). Two studies of another disadvantaged group, prison inmates, reported sexual abuse rates of 26 percent for women (Mullings, Marquart, & Brewer 2000) and 40.4 percent for men (Fondacaro, Holt, & Powell 1999).

Studies have shown that rates of childhood abuse range even higher among persons under psychiatric care. An estimated 22 to 52 percent of women in clinical settings were victims of childhood sexual abuse, while rates for men range from 12 to 39 percent (Bryer et al. 1987; Cloitre et al. 1996, 2001; Craine et al. 1988; Goodman et al. 2001; Lipschitz et al. 1996; Stein et al. 1996; Wurr & Partridge 1996). Furthermore, between 36.0 and 54.4 percent of women and between 29.0 and 58.1 percent of men in clinical samples also report being victims of childhood physical abuse (Bryer et al. 1987; Cloitre et al. 2001; Goodman et al. 2001; Lipschitz et al. 1996).

A growing body of research has produced generally consistent findings attesting to the long-term deleterious effects of childhood victimization on mental health and other areas of adult life functioning (Finkelhor et al. 1989; Herder & Redner 1991; Horwitz et al. 2001; Jumper 1995; Kamsner 2000; Kang et al. 1999; Kendall-Tackett, Williams, & Finkelhor 1993; Kendler et al. 2000; Molnar, Buka, & Kessler 2001; Mullen et al. 1988, 1993, 1996; Paolucci, Genuis, & Violato 2001; Scott 1992; Silverman, Reinherz, & Giaconia 1996; Widom 1999). These effects include substance misuse, mental hospitalizations, posttraumatic stress disorder (PTSD), dysthymia, depression, antisocial personality disorder, problems with interpersonal relationships, sexual difficulties; isolation, recurring nightmares or intrusive daytime imagery, insomnia, self-mutilation, suicide attempts, eating disorders, dissociative problems, poor self-esteem, and shame (Herder & Redner 1991; Horwitz et al. 2001; Kendall-Tackett, Williams, & Finkelhor 1993; Mullen et al. 1996; Silverman, Reinherz, & Giaconia 1996; Widom 1999). Johnson and colleagues (1999), following

639 youths from 1975 and 1993, found that those with documented childhood abuse or neglect were more than four times as likely to be diagnosed with personality disorders during early adulthood as those who were not abused or neglected. Overall, documented childhood physical abuse was associated with elevated symptom levels of antisocial, borderline, dependent, depressive, passive-aggressive, schizoid, and total personality disorders. Documented childhood sexual abuse was associated with elevated symptom levels of borderline personality disorder. When coupled with retrospective self-reports, childhood sexual abuse was also associated with elevated symptom levels of histrionic, depressive, and total personality disorders.

Negative psychological effects can occur in the short term as Boney-McCoy and Finkelhor (1995) found among a community sample of physically and sexually abused 10 to 16 year old children who had psychological and behavioral problems (PTSD symptoms, sadness, and problems with a teacher). Negative psychological effects can also continue throughout adolescence and into adulthood as retrospective studies of community samples have documented (Molnar, Buka, & Kessler 2001; Silverman, Reinherz, & Giaconia 1996; Stein, Leslie, & Nyamathi 2002). Prospective studies have also found the same effects. Court reported abused male and female children followed into adulthood were more likely than their matched controls to have lifetime and current PTSD and dysthymia (Horwitz et al. 2001; Widom 1999).

Studies have found that childhood physical and sexual abuse are associated with drug and alcohol abuse in adulthood (Mullen et al. 1993; Stein et al. 1988; Straus & Kantor 1994; Windle et al. 1995). Kang and colleagues (1999) found that 51 percent of substance-abusing women reported having experienced childhood physical or sexual abuse. Also, female, though not male, children with court-documented abuse have significantly increased risks of alcohol abuse and alcohol or drug related arrests as adults compared with a matched control group (Ireland & Widom 1994; Widom 1999).

The adverse experience of childhood abuse has been found to have a direct effect on chronic homelessness (Stein, Leslie, & Nyamathi 2002). Childhood abuse has also been linked to

victimization among women by spouses or other domestic partners, which, in turn, often leads to homelessness or housing instability (Browne 1993; Wenzel, Leake, & Gelberg 2001). Thus, childhood abuse can have an indirect effect on homelessness as battered women attempt to escape their abusive environments (Stein, Leslie, & Nyamathi 2002).

Increased risk of revictimization, that is experiencing rape, other sexual assaults, battery, domestic violence, other forms of interpersonal violence, and verbal abuse, as an adult is another adverse outcome that has been associated with childhood abuse (Cloitre et al. 1996 & 2001; Coid et al. 2001; Goodman & Fallot 1998; Irwin 1999; Krahe 2000; Wyatt, Guthrie, & Notgrass 1992). The experience of childhood abuse may lead to the learning of maladaptive behaviors, beliefs, and attitudes, as well as the failure to learn adaptive ones (Turner & Butler 2003; Wheeler & Berliner 1988). As a result, the behaviors and beliefs learned through childhood abuse may contribute to increased vulnerability to revictimization as an adult (Messman & Long 1996). Most of the revictimization research has focused on women and has examined the effects of sexual abuse; but those that examined multiple types of child abuse reveal that one type of abuse is often accompanied by other abuse and that increasing severity of the childhood abuse escalates risk of later victimization (Coid et al. 2001; Irwin 1999; Mullen 1993).

While numerous studies have shown childhood victimization to be a significant contributor to psychological distress, substance misuse and victimization in adulthood, comparatively little attention has been paid to its association with these problems among persons with serious mental illness (SMI). Early research that investigated childhood abuse among persons with SMI addressed only the amount of abuse among patients in treatment and typically examined only women (Bryer et al 1987; Caine et al. 1988; Muenzenmaier et al. 1987). Recently, researchers have examined the effects of child abuse on victimization in adulthood among persons with SMI; but they too have typically examined the relationship only among women. Goodman and Fallot (1998) found that having experienced either childhood sexual or physical abuse was significantly associated with adult sexual assault among

outpatient women with SMI. Furthermore, childhood physical abuse was also associated with adult physical assault. Cloitre and colleagues (1996) found that women with a history of childhood abuse were more than three times more likely to have experienced adult sexual assault. Subjects in this study who reported childhood physical abuse alone or in combination with sexual abuse were more likely to experience adult sexual assault than those reporting only sexual abuse. Two more recent studies looked at the effects of childhood abuse on males with SMI. Goodman and colleagues (2001), in a large sample of men and women with SMI in public mental health systems in four eastern seaboard states found that childhood physical abuse and sexual abuse were strongly correlated with recent (over the past year) victimization for both genders. Cloitre and colleagues (2001) also found that childhood abuse was significantly associated with being a victim of violence as an adult among men with SMI.

This study examines the prevalence of childhood abuse and adult adverse outcomes among a sample of persons with SMI who are frequent users of the public mental health system and who were recently released from involuntary mental hospitalization. It also addresses the effects of childhood abuse on adverse outcomes. Specifically, it tests three hypotheses. First, that the rate of childhood abuse among this sample is higher than that found among the general population. The second, that childhood physical and sexual abuse, along with the combined measure of the two, will have long-term negative consequences for adults, including homelessness, substance abuse, and victimization. Third, that the effects of childhood abuse on the three negative outcomes will be mediated partially by the chronic stresses associated with the sample's disadvantaged status including: poverty, low education, being single during adulthood, having a psychotic disorder, and severity of mental illness. The main goal is to investigate whether childhood abuse places persons who are severely mentally ill and frequent users of the public mental health system at higher risk of encountering revictimization, substance abuse, and homelessness than those who are not victims of childhood abuse.

Methods

Sample

The data used in this paper were drawn from a larger study examining the effectiveness of outpatient commitment among involuntarily hospitalized patients with severe mental illness (Swartz, Burns, Hiday et al. 1995; Hiday et al. 1999). The original sample consisted of 331 individuals recruited from the admissions unit of a state mental hospital and from the psychiatric units of three general hospitals (Hiday et al. 1999). Subjects were recruited between November 1992 and March 1996. Inclusion in the sample was limited to individuals who were at least 18 years of age, had been diagnosed with a severe mental disorder (schizophrenia, schizoaffective disorder, an affective disorder with psychotic features, or other psychotic disorder), and were functionally impaired according to state criteria for severe and persistent mental illness (Hiday et al. 1999). The sample used in this study consisted of a subsample of the original study and included only those patients who reported information on childhood abuse from an AIDS add-on study conducted in 1997-98 (Swanson et al. 2002). In all, this study examined data pertaining to 188 participants, but four cases were dropped due to missing data.

Table 1 provides the demographic and clinical baseline characteristics for the sample. Participants ranged in age from 19 to 64 years with a mean age of 38.6 years. Slightly more than half (54.3%) were between the ages of 30 and 44 at the start of the study. Of the 188 patients, 54.3 percent were males; and 68.1 percent were African American with the remainder white. The mean level of education for the sample was 12.22 years, with 23.4 percent having pursued an education after high school, but 37.2 percent having failed to complete high school. Less than a fifth of the sample (18.1%) was married or cohabitating. Just over half (54.3%) lived in urban or suburban areas with the remainder living in smaller towns and rural areas. Mean annual income for respondents was \$7,490.00. The characteristics of this sample are typical of persons with severe mental illness who

are hospitalized in the public mental health system, particularly minority status, homelessness, low education, low income, and drug and alcohol problems (Hiday et al. 1999; Link & Stueve 1994; Rossi 1989).

Measurement

Indicators of childhood abuse were represented in the data by responses to a series of questions on physical and sexual victimization prior to the age of 16. The Sexual Abuse Exposure Questionnaire (SAEQ) provided items to measure childhood sexual victimization (Rodriguez et al. 1997; Ryan 1991). Sexual abuse was defined as a positive response to any of 6 items indicating forced or unwanted sexual contact (from the touching of private parts to rape) during childhood by a parent, caretaker, or someone else in authority (see appendix for items). Physical abuse was measured by a positive response to any of 3 questions combining the most serious items of the violence subscale of the Conflict Tactics Scales (CTS), the most commonly used measure of domestic violence (Goodman et al. 2001; Straus 1990; Straus & Gelles 1990). For this study, childhood physical abuse included any beating, choking, kicking, burning, or use of a weapon by a parent or caregiver prior to age 16 (see appendix for items). A third measure, the co-experience of physical and sexual abuse, indicated only those respondents with a history of both forms of abuse. A fourth measure, any abuse was constructed indicating having been or not been a victim of either physical or sexual abuse, or a combination of the two prior to the age of 16. This measure was introduced to determine the overall prevalence of childhood abuse among the sample. Because studies typically use only one type of childhood victimization or a combined measure, we examine both combined measures and the separate measures of childhood sexual and physical abuse. However, only the first three measures of abuse were used in the bivariate and multivariate analyses. Childhood neglect, while more common than childhood physical and sexual abuse, was not examined in this study.

The dependent variable, adverse outcomes, was measured by substance abuse problems, homelessness, and adult criminal victimization. We defined substance abuse problems as reports by respondents, collaterals, or case managers of any problems with family, friends, job, police, or physical health related to alcohol or drug use during the four months prior to hospitalization. Homelessness was defined as having no regular residence, or sleeping outside under a shelter, inside an empty building, in a public shelter, or in a church during the previous four months. Adult criminal victimization was defined by subjects' being victims of violent crime (such as assault, rape or mugging) or nonviolent crime (such as burglary, theft of property or money, or being cheated) on a single occasion or more than one occasion in the previous four months (see items on appendix). Responses for all three variables were coded with a 0 (did not have a substance abuse problem/was not homeless/had not been criminally victimized in the previous 4 months) or a 1 (had a substance abuse problem/was homeless/had been criminally victimized in the previous 4 months).

Seven sociodemographic variables were variables in the analysis: the three ascribed statuses of age, gender, and race (African American vs. white); and the 4 achieved indicators which may mediate the effect of childhood abuse on adverse outcomes [education (years in school), income (annual income recorded in thousands of dollars), marital status (married or cohabitating vs. single, widowed, and divorced), and place of residence (urban and suburban vs. rural and small town)].

Four clinical measures of illness severity were included: psychotic diagnosis, psychiatric symptoms, functional impairment, and psychiatric hospitalization. Diagnosis of psychosis (schizophrenia, schizoaffective, or other psychotic diagnosis vs. nonpsychotic diagnoses) was obtained from hospital chart review and validated on a subsample with the Structured Clinical Interview for DSM-III (SCID; Spitzer et al. 1990; Swartz et al. 1998). Total score of the Brief Symptom Inventory (BSI, range 0-102, Derogatis and Melisaratos 1983) assessed psychiatric symptoms. Functional impairment was assessed by the Global Assessment of Functioning Scale

(GAF), a clinical rating of functional status on Axis V ranging from 0-100 (Endicott et al. 1976). Psychiatric hospitalization was recorded as the number of admissions during the previous year.

Results

Prevalence of Adverse Outcomes and Childhood Abuse

The respondents in this sample experienced high rates of adverse outcomes. Approximately a fifth of the patients (20.7%) were homeless prior to hospitalization. There was a high rate of substance-related problems among the sample (36.7%); and more than a quarter (25.5%) experienced recent criminal victimization. The patient sample also reported high levels of childhood abuse prior to the age of 16. Of the 188 respondents, 109 (58.0%) reported being the victim of either childhood sexual and/or childhood physical abuse.

Males and whites in this sample reported higher rates of childhood abuse (60.8% and 66.7% respectively) than females (54.7%) and African Americans (53.9%). However, neither gender nor race was significantly associated with childhood abuse among this sample. Likewise, none of the five other sociodemographic variables (age, education, income, marital status, place of residence) were significantly associated with abuse. The only clinical variable significantly associated with being a victim of childhood abuse was the BSI score. Respondents who scored above the median number of symptoms were more likely to have been abused as children (68.8% vs. 46.7%, $p < .01$). Neither psychotic diagnosis, global functioning, nor number of recent psychiatric hospitalizations was significantly associated with a history of child abuse.

Separating childhood abuse into occurrences of physical and sexual abuse indicated high rates among the overall patient sample for both types of abuse: 45.7 percent reported having been physically abused as children and 36.2 percent reported having been sexually abused; 23.9 percent experienced both forms of abuse. The Pearson correlation for the bivariate association between

childhood physical and sexual abuse is .309 (significant to .01 level, 2-tailed test). The physical abuse rates are considerably higher than those for the general population (6.4 to 17.7% for females and up to 34% for males) (Coid et al. 2001; Lisak, Hopper, & Song 1996; Rosenberg 2001; Silverman, Reinherz, & Giaconia 1996). The sexual abuse rates are also much higher than those reported in community-level studies (13.5 to 27% for females and 2.5 to 16% for males) (Finkelhor et al. 1989; Kamsner 2000; Lisak, Hopper, & Song 1996; Molnar, Buka, & Kessler 2001; Rosenberg 2001). On the other hand, these rates are in the range of physical and sexual abuse rates found in other clinical populations (Cloitre et al. 1996 & 2001; Goodman et al. 2001; Wurr & Partridge 1996).

The dispersion of abuse rates among males and females in this study was similar to those in both the general population and clinical settings, with males reporting more physical abuse than females (51.0% vs. 40.4%) and females reporting more sexual abuse than males (40.9% vs. 33.3%). However, females failed to exhibit a significantly higher rate of sexual abuse than males.

Adverse outcomes by type of childhood abuse

Table 2 presents the bivariate associations between three measures of childhood abuse (physical, sexual, and the co-occurrence of both) and the three adverse adult outcomes that occurred during the four months prior to hospitalization: substance abuse problems, homelessness, and recent criminal victimization. In all 9 cells, respondents with histories of childhood abuse exhibited higher rates of adverse outcomes than those without histories of childhood abuse; but not all of these relationships are significant. Rates of homelessness and criminal victimization were significantly higher among those subjects who reported childhood physical abuse or the co-experience of both physical and sexual abuse (Pearson Chi-Square, $p < .05$). The rate of homelessness among those with histories of childhood physical abuse was 27.9 percent in comparison to 14.7 percent among those reporting no such experience. The rate of criminal victimization among those reporting childhood physical abuse was 33.7 percent as opposed to 18.6 percent among those not reporting physical abuse. Those who

experienced both childhood physical and sexual abuse experienced rates of these adverse outcomes slightly higher than either alone. The rate of homelessness among these patients was 33.3 percent in comparison to 16.8 among those who did experience both forms of abuse; 37.8 percent reported being criminally victimized as opposed to 21.7 percent who did not report the co-occurrence of childhood physical and sexual abuse. In addition, the co-occurrence of both childhood physical and sexual abuse was significantly associated with substance abuse problems (Pearson Chi-Square, $p < .05$). Of those who experienced the dual form of abuse, 51.1 percent reported having a substance abuse problem. In contrast, 32.3 percent of those who did not experience both childhood physical and sexual abuse had a substance abuse problem.

Although childhood sexual abuse raised the total effects of the variable measuring the co-occurrence of both physical and sexual abuse, alone it failed to have a significant association with any of the three adverse outcomes in the bivariate analysis. Some researchers have suggested that many children under the age of 16 or 18 who experience sexual contact by an adult figure, may not react negatively to the experience based on reports of willingness and positive or neutral effects resulting from the encounter (Condy et al. 1987; Nelson & Oliver 1998; Rind, Bauserman, & Tromovitch 2001). If that is the case, our measure of childhood sexual abuse may be capturing more than childhood victimization. Such contact when coupled with physical abuse is more likely to be experienced as negative and traumatic. As a result, we decided to examine the separate effects of each of the measures of childhood abuse in comparison with those respondents who did not report any history of abuse. In order to do this, we constructed a separate abuse variable coded as a 0 for those who experienced no abuse, a 1 for those who experienced physical abuse only, a 2 for those who experienced sexual abuse only, and a 3 for those who reported a history of both forms of abuse.

Table 3 presents the crosstabulations of each of these abuse categories with the three adverse outcomes. While 86 respondents reported experiencing physical abuse, only 41 had a history of physical abuse only. Of 68 reporting sexual abuse, only 23 experienced sexual abuse alone. Rates of

homelessness and recent criminal victimization for those who experienced only physical abuse were higher than those among respondents who were not abused. For those who experienced sexual abuse only, the rates of substance abuse problems and recent criminal victimization were lower than those found among respondents who were not abused. Respondents who reported histories of both childhood physical and sexual abuse had higher rates of all three adverse outcomes than reported in each of the other three categories.

Multivariate analysis

Using logistic regression, we examined the individual effects of each category of childhood abuse from the bivariate analysis in Table 3 while taking into consideration additional factors which have been empirically and theoretically associated with both child abuse and adverse outcomes. The isolated experiences of childhood physical and sexual abuse and the co-occurrence of both were treated as dummy variables, while the category of no abuse served as the comparison group. We began with a model looking only at the significant association between the child abuse variables and the adverse outcome. In three subsequent models, we sequentially added the three sociodemographic measures of ascribed status (age, gender, and race), the four sociodemographic measures indicating achieved status (education, income, cohabitation, and place of residence) and the four clinical variables (psychotic diagnosis, GAF score, BSI score, and number of psychiatric hospitalizations), after first forcing the three child abuse dummy variables and carrying all variables significant at the .05 level to subsequent models. A fifth and final model is the reduced model containing only the child abuse and other significant variables. In each model, a one-tailed test of significance was used for each measure of child abuse because we were predicting direction in the association between childhood abuse and adverse outcomes.

Table 4 presents the results of the regression analysis predicting substance abuse problems. The

co-occurrence of childhood physical and sexual abuse was the only category of abuse that significantly increased the chances of experiencing this adverse outcome. In the first two models, these respondents had odds of substance abuse problems approximately twice that of those reporting no history of abuse (1.90 and 2.02 times respectively, $p < .05$). This association dropped to nonsignificance in the final three models with the introduction of the achieved status and clinical variables. Males had odds of substance abuse problems between two and three and a third times higher than that of females in the sample (ranging between 2.35 in the second model, $p < .05$ and 3.34 in the reduced model, $p < .001$). Those living in urban or suburban areas were also approximately twice as likely to experience this adverse outcome. Individuals with higher income and those without a psychotic diagnosis were also more likely to have substance abuse problems. Together, the three child abuse measures, gender, income, place of residence, and psychotic diagnosis explained 21.4 percent of the variation in substance abuse problems.

Table 5 presents the results of the multivariate analysis predicting homelessness. Of the childhood abuse measures, only the experience of both physical and sexual abuse significantly raised rates of homelessness. This association remained significant in the first three models as these respondents had odds of experiencing homelessness more than three times the odds of those reporting no history of abuse (3.09 and 3.10 in models 1 and 2 respectively, $p < .01$, and 2.92 in model 3, $p < .05$). This significance was lost with the inclusion of clinical variables in the fourth model but was regained in the final reduced model. Respondents who resided in urban or suburban areas were also significantly more likely to be homeless (3.71, 3.22, and 3.35 times in models 3-5 respectively, $p < .01$). Jointly, the three abuse measures and place of residence explained 12.6 percent of the variation in homelessness in the previous four months.

Table 6 presents the findings for any recent criminal victimization. Again, only those respondents who reported experiencing both childhood physical and sexual abuse were significantly more likely than those reporting no childhood abuse to have been victims of recent criminal victimization. This

relationship remained significant throughout the first three models as these individuals had nearly two and a half times (2.39, 2.45, and 2.39 in models 1-3 respectively, $p < .05$) the odds of being criminally victimized within the previous four months as opposed to those not reporting a history of abuse. This relationship, however, lost significance with the inclusion of clinical measures in the fourth model, and remained insignificant in the reduced model as the BSI score emerged as a significant predictor of recent criminal victimization. Collectively, the three abuse measures and the BSI score explained 9.9 percent of the variation in recent criminal victimization.

Separate analyses were run to determine the amount of difference between the three child abuse measures in terms of predicting each of the adverse outcomes. Respondents who experienced both physical and sexual abuse were significantly more likely to encounter substance abuse problems as an adult than those who experienced only physical or sexual abuse. To be exact, the odds of experiencing this adverse outcome among those who reported dual forms of abuse were more than twice as high (2.25, $p < .05$) as those for persons who experienced only physical abuse and nearly four times as high (3.76, $p < .05$) as those who experienced only sexual abuse. However, there was no significant difference in predicting substance abuse problems between the physical abuse alone and childhood sexual abuse alone categories.

When the same tests were run in predicting homelessness, no significant differences turned up between the three forms of abuse; however, respondents with a history of both physical and sexual abuse were significantly more likely to experience recent criminal victimization than those who reported experiencing sexual abuse only (odds 4.04 times higher, $p < .05$). The difference between the former and those reporting physical abuse alone was not significant. These findings held true for all three adverse outcomes, even after the additional significant predictors were included in the analyses.

Discussion and Conclusions

As expected in our first hypothesis, this sample of involuntarily hospitalized persons with severe mental illness experienced extremely high rates of childhood physical and sexual abuse. The overall rates were considerably higher than those reported for the general public, even higher than some of the more liberal estimates (Coid et al. 2001; Finkelhor et al. 1989; Irwin 1999; Kamsner 2000; Lisak, Hopper, & Song 1996; Rosenberg 2001). We found that the rates of childhood abuse were comparable to the middle to upper end of the range of abuse for clinical populations (Cloitre et al. 1996, 2001; Goodman et al. 2001; Lipschitz et al. 1996; Wurr & Partridge 1996). They were also comparable to childhood abuse rates found among other disadvantaged populations (Fondacaro, Holt, & Powell 1999; Goodman 1991; Mullings, Marquart, & Brewer 2000; Stein, Leslie, & Nyamathi 2002).

In bivariate analysis, none of the sociodemographic variables aside from residence had a significant association with any measure of childhood abuse. Their failure to discriminate between those abused and not abused is likely due to our sample's being at the very low end of the tails of the distribution of education and income as well as mental health. At this location, the prevalence of all types of victimization is high (Hiday et al. 1999; Horwitz et al. 2001; Sampson & Lauritsen 1992; 1993; Widom & Hiller-Sturmhofel 2001).

Adverse outcomes during adulthood pose a significant problem among respondents. This sample of persons with severe mental illness suffered from high rates of substance abuse problems (36.7 percent), homelessness (20.7 percent), and recent adult criminal victimization (25.5 percent). In our second hypothesis, we expected to find that the three initial measures of childhood abuse (any physical abuse, any sexual abuse, and the co-occurrence of both), when examined separately, would be significant predictors of these adverse adult outcomes. Bivariate analysis only offered partial support for this hypothesis. Although respondents who had substance abuse problems, were

homeless, or had experienced recent adult criminal victimization had higher rates of childhood physical, sexual, and the co-occurrence of both forms of abuse, only five relationships were significant. Childhood physical abuse and the co-occurrence of physical and sexual abuse were significant predictors of homelessness and recent criminal victimization, and only the combined measure of abuse was significantly associated with substance abuse problems.

The strength of the two forms of abuse when combined reduced the relationships between physical abuse and adverse outcomes to nonsignificance in the multivariate analyses; but it lost significance when achieved status and clinical measures were added in the substance abuse problems and victimization models, respectively. The co-occurrence of childhood physical and sexual abuse was a significant predictor only of homelessness after the inclusion of the achieved status and clinical measures.

One major criticism of studies examining the adult effects of childhood abuse is that many view abuse as an isolated event (Horwitz et al. 2001; Widom 1999). These studies fail to take other potential risk factors into consideration that may account for some of the apparent association between childhood abuse and adverse outcomes in adulthood. Mullen and colleagues (1993, 1996) contend that a “matrix of childhood disadvantage” in an individual’s childhood increases the chances of experiencing childhood sexual abuse. Childhood victimization tends to occur in homes with a variety of dysfunctional behaviors and domestic disadvantage such as poverty, of which childhood sexual and physical abuse may be only two (Mullen et al. 1996; Widom 1999). While the childhood abuse is part of the set of problems, it is the entire set, not just the abuse alone, which affects adverse outcomes. Thus, the experience of childhood abuse, whether as a singular adverse life event or a continuous chronic strain, may be part of a web of strains that led to stress resulting in negative outcomes during adulthood.

Another criticism of studies of adult effects of childhood abuse, which examine it in isolation, is that they fail to consider subsequent stressors. Horwitz and colleagues (2001) who did examine the role of stressors that occur over the lifetime in their 20 year follow-up study of abused children reported that lifetime stressors, such as the death of a parent, being fired, unemployment, money problems, or custody problems, played a greater role than childhood abuse in explaining mental health problems in adulthood. But because most of the 23 categories of life events used in their study occurred after childhood and because subjects who suffered childhood abuse had significantly more of these stressors, they acknowledged the possibility that childhood abuse could indirectly affect adult adverse outcomes. The experience of abuse as a child could be the primary stressor that leads to a series of secondary stressors. That is, it could trigger poor mental health among children that, in turn, could increase the risk of experiencing adult stressors of the socioeconomic environment that could then lead to poor mental health as adults. Another explanation is that the matrix of disadvantage, of which childhood abuse is a part, causes lifetime stressors after childhood, which produce adverse events in adulthood.

Turner and Lloyd (1995), in a large community sample, determined that there was a significant direct and lasting effect from the experience of multiple childhood adversities (including childhood abuse, but also including nonviolent traumas and chronic strains) on both psychological distress and psychiatric disorder. Much of the association between these childhood adversities and poor adult outcomes however, was indirect through the mediating effects of later stress and lower levels of resources such as mastery, self-esteem, and social support (Turner & Butler 2003). Again, these later adverse events could have been triggered by the experience of childhood abuse itself.

We attempted to address the issue that both structural and clinical factors in subjects' adult lives could reduce the association between childhood abuse and adverse adult outcomes. In our third hypothesis, we proposed that the effects of childhood abuse on negative outcomes are partially mediated by chronic stressors associated with the disadvantaged status of this sample. We included a

number of sociodemographic and clinical characteristics to determine if they placed individuals at risk of adverse outcomes in adulthood, suggesting mediation of the effects of childhood abuse. In the multivariate analyses, we found both direct and indirect effects of the co-occurrence of physical and sexual abuse on homelessness and recent criminal victimization, respectively, after these additional factors were added in. This hypothesis is supported in seeing that the addition of BSI score reduced childhood abuse to nonsignificance in its effect on criminal victimization. Furthermore, the addition of income, residence and psychotic diagnosis reduced child abuse to nonsignificance in its affect on substance abuse problems.

Additional support for our third hypothesis can be found in the relationship between homelessness and recent criminal victimization. In the original sample of 331, Hiday and colleagues (1999) found that transient living conditions (homelessness) was a strong predictor of criminal victimization in both bivariate and multivariate analyses. Homelessness maintained its status as a significant predictor of recent criminal victimization ($p < .001$) in this study; thus, the co-occurrence of childhood physical and sexual abuse has an indirect influence on adult criminal victimization through homelessness as shown by Chesney-Lind (1997, 2001) and Chesney-Lind and Sheldon (1992) in their studies of runaway young girls.

Measurement error may have occurred in one of our adverse outcomes, recent adult victimization, because respondents were asked only whether they had been the victim of a violent or nonviolent crime. Although domestic violence is a crime, its victims are often reluctant to consider victimization by family members or acquaintances as criminal (Cascardi et al. 1996; Goodman, Dutton, & Harris 1995). Thus, rates of recent criminal victimization may be underreported among this sample.

The findings presented in this study provide some evidence for the life-long deleterious effects of childhood physical abuse, especially when combined with the experience of sexual abuse. At the same time, they offer support for the contention that some of the effects of childhood abuse are mediated by background factors. We found that the addition of clinical variables, GAF and BSI

scores in particular, and place of residence reduced the effects of childhood abuse on adverse adult outcomes. Because the data were gathered retrospectively during the respondents' adult lives, we were unable to discern whether childhood abuse contributed directly to adult sociodemographic and clinical disadvantage or if they resulted from cumulative adversities and low resources. It is entirely possible that the recent adverse outcomes experienced by these individuals could be the indirect result of childhood abuse through later life stressors and low levels of resources as well as directly resulting from the abuse itself. However, in order to determine the true paths of these associations and to assess their effects on adverse adult outcomes more effectively, the study would have needed to be longitudinal in nature rather than relying on retrospective accounts.

Additional questions regarding the frequency and sources of childhood abuse would also have aided the analysis of the impact of abuse on substance abuse problems, homelessness, and adult criminal victimization. It is possible that persons who experienced both childhood sexual and physical abuse could have been victimized by more than one person and the experience of one may have been more traumatic and stress-inducing than the other. Some reports of physical and sexual abuse on their own may also have been more traumatic and stress-inducing than others. Knowing the frequency of abuse could have helped to address its severity. Continuous histories of traumatic abuse would likely have a greater impact on personal mastery and self-esteem than the experience of singular abuse occurrences, which would in turn contribute to adverse adult outcomes. Questions designed to measure the extent and quality of social support networks would also have helped to qualify the long-term effects of childhood abuse. However, considering the extremely disadvantaged nature and low status of this sample and their propensity towards high-risk behaviors, many likely lacked sufficient social support networks and personal coping resources to mediate the effects of childhood abuse and other acute and chronic stressors. The one measure of perceived social support available in this study, whether or not a respondent was married or living with a significant other

(only 18.1%), serves as an indicator of low levels of social support among this sample, but showed no effect.

This study contributes to the existing body of knowledge regarding the prevalence of childhood abuse and adverse adult outcomes among disadvantaged populations. The findings in this study add to the limited literature regarding the prevalence and effects of a history of the co-occurrence of physical and sexual abuse. It provides some evidence of the relationship between having a history of both these types of childhood abuse and adverse outcomes among persons with severe mental illness. This association has been largely ignored in previous research. However, in one study, Cloitre and colleagues (1996) found that female inpatients reporting physical and sexual abuse as children were more likely to experience adult sexual assault than those reporting a history of childhood sexual abuse alone.

The findings in this study suggest that greater attention should be paid to the impact of childhood physical abuse. Among this sample, those respondents who reported a history of childhood physical abuse alone experienced higher rates of the three adverse adult outcomes than those reporting only sexual abuse. Cloitre and colleagues (1996) also found that the prevalence of adult sexual assault was higher among female outpatients who disclosed a history of only physical abuse than those reporting only sexual abuse.

Our findings suggest that the childhood physical abuse alone and the co-occurrence of both childhood physical and sexual abuse deserve far more attention than they have received in child abuse literature. Thus, future research should pay attention to the extent of abuse and the interactive effects of multiple forms of abuse on stress. The impact of childhood abuse on adult psychological and social functioning should not be underestimated whether among individuals in the general population or in the public mental health system. Greater detail should be paid to the abuse histories of persons within the mental health system since a history of childhood abuse can increase the chances of experiencing adverse outcomes among even the most disadvantaged groups. Service providers

should not risk neglecting the negative impact of this stressor that can lead to high-risk adult behaviors. A better understanding of adverse events that contribute either directly or indirectly to poor mental health and other areas of life functioning among adolescents and adults could assist in developing intervention programs to reduce their destructive influence. Additional research focusing on the association between childhood abuse and adverse outcomes is needed that might include the follow-up of persons with severe mental illness who are receiving outpatient treatment within the community. Treatment services can help many such individuals improve their quality of life by addressing these stress-inducing circumstances and providing much-needed social support. These services could provide a buffer against major current stressors that lead to adult maladaptive behaviors such as transient living, substance use, criminal activities, and prostitution. The negative effects of these stressors could also be mediated by teaching individuals adaptive coping mechanisms.

Table 1. Demographic and Clinical Baseline Characteristics of Sample (N=188)

	Total	
	N	%
Age		
18-29	35	18.6
30-44	102	54.3
45-Over	51	27.1
Gender		
Male	102	54.3
Female	86	45.7
Race		
African American	128	68.1
White	60	31.9
Education		
< High School	70	37.2
High School	74	39.4
> High School	44	23.4
Income (Median)		
< \$5,832	94	50.0
≥ \$5,832	94	50.0
Marital Status		
Married/Cohab	34	18.1
Single/Div/Widow	154	81.9
Residence		
Rural	86	45.7
Urban	102	54.3
Psychotic Diagnosis		
Yes	125	66.5
No	63	33.5
GAF		
< Median	36	19.1
≥ Median	152	80.9
Symptoms (BSI)*		
< Median	92	48.9
≥ Median	96	51.1
Psych Hosp.		
None	26	13.8
One	90	47.9
2 or more	72	38.3

* Out of all of these variables, only the BSI score was significantly associated with the measure of the co-experience of childhood physical and sexual abuse ($p < .05$).

Table 2. Rates (Percentage) of Adverse Outcomes by Type of Childhood Abuse: Compared With Those Who Did Not Experience Abuse (Total N=188)

Adverse Outcomes	Childhood Abuse Type					
	Physical (N=86)		Sexual (N=68)		Both (N=45)	
	Yes	No	Yes	No	Yes	No
Substance Problems (N=69)	41.9	32.4	41.2	34.2	51.1	32.3
Homeless (N=39)	27.9	14.7	27.9	16.7	33.3	16.8
Criminal Victimization (N=48)	33.7	18.6	29.4	23.3	37.8	21.7

Bold print indicates significance (Pearson Chi-Square, $p < .05$)

Table 3. Crosstabulations of Adverse Outcomes by Type of Childhood Abuse (N=188)

Adverse Outcomes	Type of Childhood Abuse				Total
	No Abuse (N=79)	Physical Abuse Only (N=41)	Sexual Abuse Only (N=23)	Both Forms of Abuse (N=45)	
Substance Problem	%	%	%	%	
Yes	35.4	31.7	21.7	51.1	69
No	64.6	68.3	78.3	48.9	119
Total	100.0	100.0	100.0	100.0	188
Homeless	%	%	%	%	
Yes	13.9	22.0	17.4	33.3	39
No	86.1	78.0	82.6	66.7	149
Total	100.0	100.0	100.0	100.0	188
Criminal Victimization	%	%	%	%	
Yes	20.3	29.3	13.0	37.8	48
No	79.7	70.7	87.0	62.2	140
Total	100.0	100.0	100.0	100.0	188

Table 4. Logistic Regression Predicting Substance Abuse Problems

Variable	Model 1	Model 2	Model 3	Model 4	Model 5
Childhood Physical Abuse Only	0.85 (.41)	0.73 (.43)	0.68 (.44)	0.72 (.45)	0.69 (.44)
Childhood Sexual Abuse Only	0.51 (.56)	0.58 (.58)	0.47 (.59)	0.42 (.61)	0.42 (.60)
Childhood Physical & Sexual Abuse	1.90* (.38)	2.02* (.40)	1.75 (.41)	1.70 (.43)	1.71 (.41)
Age		0.97 (.02)			
Male		2.35* (.34)	2.54* (.35)	3.18** (.38)	3.34*** (.37)
African American		1.84 (.36)			
Education			0.97 (.12)		
Income			1.09* (.04)	1.08* (.04)	1.08* (.04)
Cohabitation			0.85 (.47)		
Residence			1.96* (.34)	2.17* (.35)	2.19* (.35)
Psychotic Diagnosis				0.42* (.38)	0.42* (.37)
GAF				1.00 (.02)	
BSI				1.00 (.01)	
Psychiatric Hospitalization				1.28 (.16)	

R²† .048 .138 .181 .230 .214

Odds Ratios and Standard Errors (In Parenthesis) are provided.

* p<.05

** p<.01

*** p<.001

A one-tailed test was performed for each childhood abuse measure.

† (Nagelkerke 1991)

Table 5. Logistic Regression Predicting Homelessness

Variable	Model 1	Model 2	Model 3	Model 4	Model 5
Childhood Physical Abuse Only	1.74 (.50)	1.53 (.51)	1.79 (.52)	1.66 (.53)	1.72 (.51)
Childhood Sexual Abuse Only	1.30 (.64)	1.48 (.66)	1.29 (.68)	1.68 (.69)	1.14 (.65)
Childhood Physical & Sexual Abuse	3.09** (.45)	3.10** (.47)	2.92* (.48)	2.26 (.50)	2.72* (.47)
Age		0.96 (.02)			
Male		2.05 (.40)			
African American		1.13 (.41)			
Education			1.03 (.13)		
Income			0.93 (.05)		
Cohabitation			0.32 (.67)		
Residence			3.71** (.43)	3.22** (.44)	3.35** (.42)
Psychotic Diagnosis				1.72 (.47)	
GAF				0.93 (.04)	
BSI				1.01 (.01)	
Psychiatric Hospitalization				1.31 (.17)	

R²† .053 .118 .180 .220 .126

Odds Ratios and Standard Errors (In Parenthesis) are provided.

* p<.05

** p<.01

A one-tailed test was performed for each childhood abuse measure.

† (Nagelkerke 1991)

Table 6. Logistic Regression Predicting Criminal Victimization

Variable	Model 1	Model 2	Model 3	Model 4	Model 5
Childhood Physical Abuse Only	1.63 (.44)	1.55 (.45)	1.78 (.46)	1.52 (.46)	1.48 (.45)
Childhood Sexual Abuse Only	0.59 (.68)	0.63 (.68)	0.55 (.70)	0.62 (.70)	0.57 (.69)
Childhood Physical & Sexual Abuse	2.39* (.45)	2.45* (.42)	2.39* (.43)	1.93 (.43)	1.98 (.43)
Age		0.99 (.02)			
Male		1.50 (.36)			
African American		1.33 (.38)			
Education			1.18 (.12)		
Income			1.04 (.03)		
Cohabitation			0.79 (.49)		
Residence			1.62 (.37)		
Psychotic Diagnosis				0.91 (.38)	
GAF				0.97 (.03)	
BSI				1.02* (.01)	1.02* (.01)
Psychiatric Hospitalization				1.12 (.16)	
R ² †	.053	.070	.121	.111	.099

Odds Ratios and Standard Errors (In Parenthesis) are provided.

* p<.05

A one-tailed test was performed for each childhood abuse measure.

† (Nagelkerke 1991)

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Appendix

Measures of childhood abuse:

Response Options

0 = No

1 = Yes

1. Childhood physical abuse was measured by a positive response to any of the following:

Before you were 16, did someone hit you on a part of the body other than the bottom with something like a belt, hairbrush, stick or some other hard object?

Before you were 16, did someone throw or knock you down, hit you with a fist or kick you hard, Beat you up, or grab you around the neck and choke you?

Before you were 16, did someone burn or scald you on purpose or threaten you with a knife or gun?

2. Childhood sexual abuse was defined as a positive response to any of the following questions:

Before you were 16, were your private parts touched by another person in a sexual way, or rub up against you, when you didn't want them to?

Before you were 16, did anyone make you touch another person's private parts?

Before you were 16, did anyone make you have sexual intercourse?

Before you were 16, did anyone make you have anal sex?

Before you were 16, did anyone make you perform oral sex on them?

Before you were 16, did anyone ever perform oral sex on you when you didn't want them to?

3. Co-occurrence of childhood physical and sexual abuse was measured by a positive response to one or more of the question for both physical and sexual abuse before the age of 16.

Measures of ascribed and achieved status:

4. Age – Recorded in actual years of age.

Question: What is your birth date?

5. Gender – Recorded sex as observed.

0 = Female

1 = Male

6. Race
Question: How would you describe your racial background? (All of the respondents were either white or African American.)

0 = White
1 = African American
7. Education – Recorded as the total number of years in school.
Question: How many years of schooling have you finished?
8. Income – Recorded in thousands of dollars. The total of a series of questions regarding any earned income, financial support, or additional money received in the past year.
9. Cohabitation
Question: Are you currently living with someone as though you were married?

0 = No
1 = Yes
10. Residence – Recorded as whether the respondent resided in a rural or urban/suburban areas in the 4 months before coming to the hospital.

0 = Rural area
1 = Urban/suburban area

Clinical measures:

11. Psychotic diagnosis – The diagnosis of psychosis (schizophrenia, schizoaffective, or other psychotic diagnosis). Obtained from hospital chart review and validated on a subsample with the Structural Clinical Interview for DSM-III (SCID; Spitzer et al. 1990; Swartz et al. 1998).

0 = No (Did not have a psychotic diagnosis)
1 = Yes (Had a diagnosis of psychosis)
12. GAF score (Functional Impairment) – Assessed by the Global Assessment of Functioning Scale, a clinical rating of functional status (how the mental illness affects their performance in daily life-functioning) on Axis V ranging from 0-100 (Endicott et al. 1976).
13. Symptoms (BSI) score – Assessment of the total number of psychiatric symptoms based on the Brief Symptom Inventory ranging from 0-102 (Derogatis and Melisaratos 1983).
14. Number of psychiatric hospitalizations – Recorded as the number of psychiatric admissions in the past year.

Dependent variables:

15. Substance abuse (recorded as a 1 for yes and 0 for no for either or both of the following questions)

Question: During the 4 months before you came into the hospital, did your drinking cause any problem with:

- a. Your physical health
 - b. Your nerves or mental health
 - c. Family/housemates
 - d. Friends
 - e. Job/school
 - f. Police
 - g. Mental health staff
 - h. Any other problems
- Specify: _____

Question: During the 4 months before you came into the hospital, since did using drugs cause problems with:

- a. Your physical health?
 - b. Your nerves or mental health?
 - c. Family/housemates?
 - d. Friends?
 - e. Job/school?
 - f. Police?
 - g. Mental health staff?
 - h. Any other problems
- Specify: _____

16. Homelessness (recorded as a 1 for homeless and 0 for not homeless)

Question: During the 4 months before coming to the hospital, how many times (if any) did you Sleep in each of the following?

- a. Outside in a shelter
- b. Inside an empty building
- c. In a public shelter
- d. In a church

17. Criminal victimization – Defined as being the victim of either a violent or nonviolent crime in the 4 months prior to hospitalization.

Questions: In the 4 months before you came to the hospital, were you a victim of any violent crime such as assault, rape, or mugging?

In the 4 months before you came to the hospital, were you a victim of any nonviolent crimes such as burglary, theft of your property or money, or being cheated?

0 = No
1 = Yes