Published in final edited form as:

Psychiatry Res. 2011 August 15; 188(3): 343–349. doi:10.1016/j.psychres.2011.05.019.

Clinical correlates of maltreatment and traumatic experiences in childhood and adolescence among predominantly African American, socially disadvantaged, hospitalized, first-episode psychosis patients

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Abstract

Associations among maltreatment and traumatic experiences in childhood and adolescence, later substance use, and subsequent mental health outcomes for individuals with schizophrenia-spectrum disorders have been initially explored in previous studies; however, research on these factors in socially disadvantaged patients with first-episode psychosis is unavailable. This exploratory, correlational analysis examined associations between maltreatment and trauma-related variables (e.g., traumatic experiences, parental harsh discipline, violence exposure) and: social variables (years of education attained and extent of Axis IV psychosocial problems at initial hospitalization), substance abuse (age at initiation of alcohol and cannabis use, as well as estimates of lifetime intake of both), and positive and negative symptom severity. Rates of childhood abuse and traumatic events were remarkably high in the sample. Years of educational attainment and number of Axis IV psychosocial problems were substantially correlated with several domains of childhood abuse/traumatic events. Age at initiation of alcohol and cannabis use, and lifetime alcohol and cannabis intake, were correlated with a number of trauma domains. Whereas positive symptom severity was correlated with four of the trauma variables, negative symptom severity was correlated only with prior emotional neglect. These results provide insights into the relations among childhood traumatic events, substance use, and clinical features of first-episode psychosis, creating hypotheses for future research.

Keywords

Child abuse; Childhood traumatic experiences; First-episode psychosis; Negative symptoms; Positive symptoms; Schizophrenia; Substance abuse

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1. Introduction

Recent interest in the impact of childhood trauma on the later development of psychotic disorders has led to a growing body of literature on this topic in psychiatric and general population settings (Morgan and Fisher, 2007). Research indicates that child abuse and neglect are linked with the later development of affective, personality, dissociative, and substance use disorders (Horwitz et al. 2001; MacMillan et al., 2001; Read et al., 2005). Further, a study conducted by Janssen and colleagues (2004) found that individuals in the general population with a history of childhood abuse have a greater risk of developing psychotic symptoms as adults. Read and colleagues (2003) suggested that child abuse is a causal factor for psychosis and schizophrenia; particularly, voices of the commenting type and command hallucinations. Indeed, the prevalence of prior childhood abuse among adults with psychotic disorders is significantly higher than in the general population (Read et al., 2005; Schenkel et al., 2005; Üçok and Bıkmaz, 2007). Also, there is evidence that a causal relationship may be biologically plausible. For instance, repeated childhood trauma is related to structural and neurochemical abnormalities in the brain, which could conceivably increase individuals' vulnerability to later stressful life events (Bak et al., 2005; Üçok and Bıkmaz, 2007). However, some argue that this association, while evident and apparently causal, could simply be the result of inadequate record keeping, poor history taking, and lack of diagnostic clarity (Daly, 2009). A recent study addressed some of these concerns by linking datasets from child abuse investigations and later mental health service utilization in a large geographic area, with the finding that those who had experienced verified abuse as a child were at greater risk of developing psychosis or schizophrenia during adulthood than a control cohort (Cutajar et al., 2010). Other population-based studies suggest that there is a dose-response effect between trauma and psychosis (Read et al., 2008).

A comprehensive understanding of the role of prior traumatic experiences in first-episode psychosis is also essential for the development of tailored, targeted interventions. A history of childhood trauma is predictive of a worsened course of psychotic disorders, including greater positive and dissociative symptoms at the first episode (Üçok and Bıkmaz, 2007), poorer social outcomes (Cusack et al., 2004), and higher rates of suicide (Roy, 2005). Other indicators of a poorer outcome associated with a history of childhood trauma include higher rates of homelessness, a lower ability to maintain intimacy, greater proneness to worry and emotional instability, and greater service usage and cost of care (Larkin and Read, 2008). Thus, individuals in their initial treatment contacts for psychosis may have additional mental health concerns—beyond psychotic symptoms—that merit further attention. They may benefit from a comprehensive assessment of their needs and, especially in cases of poor insight, may be more amenable to engaging in treatment if it addresses many aspects of their psychological health, such as prior maltreatment and traumatic experiences in childhood and adolescence. Finally, a hospitalization for acute psychosis can itself be traumatic to individuals (Jackson et al., 2004), and this trauma can be compounded by having experienced prior traumatic events.

Childhood trauma is also associated with greater substance misuse in some samples (Medrano et al., 2002; Hyman et al., 2007). Comorbid substance use disorders are an important consideration in psychotic disorders. Similar to childhood trauma, adolescent substance use, and cannabis use in particular, has been implicated as a risk factor for psychosis in multiple studies (Compton and Ramsay, 2009). Some researchers propose that cannabis use may be a form of self-medication to alleviate the stress associated with traumatic events (Shevlin et al., 2009). Of interest, a recent study found that childhood trauma and substance use may have a greater than additive interaction in increasing the risk of later developing psychosis (Harley et al., 2010). Substance use disorders are also

predictive of a poorer course in first-episode psychosis, as evidenced by poorer employment outcomes (McGurk et al., 2009), greater symptom severity, a poorer response to treatment, higher rates of hospitalization, the presence of comorbid infectious diseases, violence, and homelessness (Green et al., 2007).

First-episode samples can contribute substantially and uniquely to the field's understanding of the impact of childhood trauma and substance use on schizophrenia-spectrum disorders; for example, such research participants are younger and may have a more immediate (and detailed) recollection of events from their childhood and adolescence, including those involving trauma and substance use. In light of the foregoing literature, the present exploratory, correlational study examined associations between nine trauma variables and social, substance-related, and symptom variables. Such preliminary exploratory descriptions may generate hypotheses and indicate areas for additional research.

2. Methods

2.1 Setting and sample

This report is a secondary analysis of data collected during a cross-sectional study on the effects of premorbid cannabis use on the early course of psychotic disorders. This study was conducted in the southeastern United States and participants were referred from two inpatient units in a large, university-affiliated, public-sector, urban hospital (47, 77.0%), the psychiatric emergency room of the same hospital (3, 4.9%) or a public-sector psychiatric crisis center in a neighboring urban county (11, 18.0%). Eligible participants were between the ages of 18 and 40 years, able to speak and read English, and admitted to the inpatient setting for a previously untreated or minimally treated, nonaffective psychotic disorder. Individuals with known or suspected mental retardation, a Mini-Mental State Examination (Folstein et al., 1975; Cockrell and Folstein, 1988; Folstein, 2001) score of <23, a significant medical condition that could compromise ability to participate, prior outpatient treatment for psychosis lasting longer than three months, prior hospitalization for psychosis more than three months before the index hospitalization, or inability to provide written informed consent were excluded. It should be noted that the index hospitalization was a result of the first, second, or third help-seeking contact for 77.8%, and nearly all participants were completely medication naïve on admission. Twenty-nine individuals declined participation in the study during the same time period. There were no significant differences in age or gender between those who participated and those who did not.

2.2 Procedures and materials

Recruitment of participants took place between August 2008 and February 2010. Eligible patients were approached usually between day 3 and 7 of their hospitalization, once they were acclimated to the unit, initially stabilized, and able to provide consent for the study. The in-depth clinical research assessment of the overarching study lasted approximately six hours, typically divided across 2–3 days. Questionnaires on maltreatment and traumatic experiences in childhood and adolescence were administered by a trained research interviewer at the end of the overall assessment, after rapport was well established. Written informed consent was obtained from all patients prior to study participation. All procedures were approved by the university's institutional review board and the hospital's research oversight committee. Diagnoses were confirmed with the *Structured Clinical Interview for DSM-IV Axis I Disorders* (First et al., 1998), using all available information, in addition to a semi-structured diagnostic interview.

The *Childhood Trauma Questionnaire–Short Form* (CTQ-SF; Bernstein et al., 2003) is an extensively used, 28-item scale—empirically condensed from the original 70-item self-

report inventory—that provides a brief screening of maltreatment experiences occurring before the age of 18 years. The measure uses a 5-point Likert-type scale with responses ranging from “never true” to “very often true,” and assesses 5 subscales: physical (e.g., “I was punished with a belt, a board, a cord, or some other hard object”), emotional (e.g., “people in my family said hurtful or insulting things to me”), and sexual abuse (e.g., “someone tried to make me do sexual things or watch sexual things”), as well as emotional (e.g., “I felt loved,” which is reverse-scored) and physical neglect (e.g., “I didn’t have enough to eat”). Each subscale consists of five items, with resultant scores ranging 5–25 (three items assess tendency to minimize or deny abuse). Good construct validity and internal consistency have been demonstrated with both the English CTQ-SF (Bernstein et al., 2003) and non-English versions (Garrusi and Nakhaee, 2009; Gerdner and Allgulander, 2009). Test-retest reliability has been demonstrated (Paivio and Cramer, 2004), and invariance of the five-factor structure of the CTQ-SF has been documented across gender and racial groups (Thombs et al., 2007).

Traumatic experiences over the lifetime were measured by the *Trauma Experiences Checklist* (TEC), developed specifically for use in this study. The TEC is a 41-item checklist in which participants are asked to endorse the number of times (0, 1, 2, 3 or >3) a particular traumatic experience had happened to them before the age of 18 years. Questions reflect a broad range of traumatic experiences. Examples of trauma include personal injury (e.g., “Have you had a knife pulled on you and you were physically wounded?”) and relational trauma (e.g., “Have you ever had a parent in jail?”).

Parental harsh discipline was assessed in five domains, including yelling, spanking, hitting with a belt or some other object, telling one to get out or locking one out of the house, and slapping (Ge et al., 1994; Mrug et al., 2008). Each of these was rated by frequency experienced between the ages of 12 and 18 years on a 5-point scale ranging from never=1 to always=5. Participants not raised by a biological parent were asked to rate the frequency of such disciplinary measures by their primary caregiver. A greater level of harsh discipline is indicated by a higher score; total scores range from 5 to 25.

Violence exposure between the ages of 12 and 18 years was assessed utilizing a scale of seven questions pertaining to: witnessing a threat of physical violence, witnessing physical violence, witnessing a threat or actual physical violence involving a weapon, experiencing a threat of physical violence, experiencing physical violence, experiencing a threat or actual physical violence involving a weapon, and the frequency of injury experienced that resulted in medical care being sought (Mrug et al., 2008). Each item, except for the one examining frequency of medical care sought, was preceded by three probe questions related to the context in which the violence occurred, which included the school, neighborhood, or home environment.

Years of educational attainment was gathered as part of the demographic variables collected. The presence of current Axis IV psychosocial problems (including problems in the following areas: primary support, the social environment, education, occupation, finances, housing, and access to health care) was determined after the entire research assessment (typically lasting about six hours, and including questions on the patient’s income, housing situation, and educational attainment; extensive clinical interviewing; and a thorough review of the patient’s medical chart) was complete. The total number of Axis IV psychosocial problems was recorded.

Ages at initiation of alcohol and cannabis use, as well as estimates of total lifetime alcohol and cannabis intake were measured with the *Lifetime Substance Use Recall* (LSUR) instrument (Ramsay et al., 2011a). The LSUR is a timeline-based, structured interview

designed to derive an estimate of total lifetime intake of alcohol, cannabis, and other substance use during the participant's lifetime (using year-by-year estimates). The validity of the LSUR has been established for nicotine, alcohol, and cannabis use, vis-à-vis well-established measures of substance use and related problem behaviors (Ramsay et al., 2011a), including the *Hooked on Nicotine Checklist* (DiFranza et al., 2002; Wellman et al., 2004), the *Retrospective Use of Alcohol and Other Substances* (Windle, 2005), the *Michigan Alcoholism Screening Test* (Pokorny et al., 1972), and the *Drug Abuse Screening Test* (Skinner, 1982).

Positive and negative symptoms of nonaffective psychotic disorders were measured with the *Scale for the Assessment of Positive Symptoms* (SAPS; Andreasen, 1984) and its complement, the *Scale for the Assessment of Negative Symptoms* (SANS; Andreasen, 1983). Ratings were made after an in-depth, semi-structured interview, typically lasting about 45 minutes. The SAPS is a 34-item rating instrument that contains four subscales: Hallucinations, Delusions, Bizarre Behavior, and Positive Formal Thought Disorder. Each of the four areas includes ratings for a specific symptom (e.g., auditory hallucination) as well as a global rating. Ratings rely on a scale ranging from 0=none to 5=severe. The SANS is a 25-item instrument composed of five subscales: Affective Flattening, Alogia, Avolition-Apathy, Anhedonia-Asociality, and Attentional Impairment. As with the SAPS, specific behaviors are rated in each area, and then an overall rating is given for each particular subscale, with the ratings also ranging from 0=none to 5=severe. Test-retest reliability and construct validity have been demonstrated for these instruments (Rogers, 2001).

2.3 Data analyses

Distributional properties of all variables of interest were examined. Given the non-normality of a number of the variables, Spearman correlations were examined for the trauma-related variables (CTQ-SF subscales, the total TEC score, harsh discipline, and violence exposure) in relation to the following variables: (1) two social variables, years of education and the number of current Axis IV psychosocial problems, (2) several substance use-related variables, including ages at initiation of alcohol and cannabis use, as well as lifetime intake of these two substances measured with the LSUR, and (3) positive and negative symptom severity as rated using the SAPS and SANS. All correlational analyses were conducted using the *SPSS 16.0* software package.

3. Results

3.1 Sample characteristics

Sociodemographic characteristics of the study sample are shown in Table 1. The majority of participants were Black/African American males who were single/never married and living with family members in the month prior to hospitalization. Just over one-third had been raised by their mothers only, and just over one-third had been raised by both parents. The majority of patients were unemployed prior to admission; over one-half had a history of incarceration; and nearly half lived below the federally defined poverty level, based on reported household income, the number of people in the household, and published poverty thresholds for the year during which the patient participated in the study. Of note, more than half of the sample had financial stressors (40, 65.6%) or barriers to accessing healthcare (37, 59.7%), and of the 40 participants for whom a family caregiver provided additional collateral information, 35 (87.5%) reported that the patient had no health insurance. These sociodemographic characteristics are consistent with those of a previous sample of 109 hospitalized first-episode patients recruited from the same sites (Compton et al., 2009a; Compton et al., 2009b; Compton et al., 2009c; Goulding et al., 2010; Ramsay et al., 2011b).

Clinical characteristics are given in Table 2. The majority of participants were involuntarily admitted. Psychotic disorder diagnoses, as well as alcohol and cannabis use disorder diagnoses are shown in Table 2. Self-report data on the use of other drugs such as cocaine, ecstasy (3,4 methylenedioxymethamphetamine), and hallucinogens were also gathered, but prevalences of use of these substances were quite low compared to alcohol and cannabis.

3.2 Child/adolescent abuse and traumatic experiences: descriptive statistics

Mean CTQ-SF subscale scores are shown in Table 3. Rates of categorical childhood maltreatment among male and female patients—comparable to Table 1 of Üçok and Bikmaz (2007)—are also given in Table 3. Similar to previous reports, the cut-off scores for moderate to severe abuse were as follows: emotional abuse was defined as a score of ≥ 13 , physical abuse as ≥ 10 , sexual abuse as ≥ 8 , emotional neglect as ≥ 15 , and physical neglect as ≥ 10 (Bernstein and Fink, 1998; Üçok and Bikmaz, 2007). In the present sample, men more commonly reported a history of physical abuse (29.5% compared to 17.6% of women), while women were more likely to report a history of childhood physical neglect (35.3% compared to 27.3%). Emotional abuse was most commonly reported, with 41.9% of men and 35.3% of women reporting such abuse in the moderate to severe range. Rates of abuse or neglect ranged from 17.6% to 35.3% for the other categories. The rates in the present sample were generally comparable to those reported in the first-episode sample of Üçok and Bikmaz (2007), but were higher for physical abuse and lower for physical neglect. The CTQ-SF total score was highly correlated with each of the five subscales, but especially with emotional abuse and neglect. Inter-correlations among the CTQ-SF subscales ranged from $\rho=0.18$ (sexual abuse and physical abuse) to $\rho=0.71$ (physical neglect and emotional neglect). Among the 10 subscale inter-correlations, the mean value was $\rho=0.42$.

Nearly all participants (96.6%) endorsed at least one traumatic event in the TEC. The mean number of individual traumatic event items endorsed in this instrument was 13.1 ± 6.9 , and the total number of traumatic events reported was 24.3 ± 15.9 . All subsequent analyses utilized the total number of traumatic events. This TEC traumatic events score was significantly correlated with the three abuse subscales of the CTQ-SF ($\rho=0.35$ – 0.47), as shown in Table 4, but not significantly with emotional neglect or physical neglect ($\rho=.16$ and $\rho=0.20$, respectively).

Correlations between all trauma, substance use, and clinical variables are presented in Table 4. Harsh discipline and violence exposure during adolescence were moderately correlated with each other ($\rho=0.36$), and each had a moderate association with emotional abuse ($\rho=0.41$ – 0.44) and a larger correlation with physical abuse ($\rho=0.56$ – 0.58). Both scales correlated with the total number of traumatic events rated on the TEC but neither was significantly associated with scores on the other three CTQ-SF subscales. The CTQ-SF total score was moderately correlated with the TEC traumatic events score ($\rho=0.37$), harsh discipline ($\rho=0.37$), and violence exposure ($\rho=0.35$). Excluding the CTQ-SF total scale, the mean inter-correlation across eight of the childhood/adolescence maltreatment and traumatic experiences variables (five CTQ-SF subscales, TEC traumatic events, harsh discipline, and violence exposure) was 0.36.

3.3 Associations between child/adolescent abuse and traumatic experiences and years of education and number of Axis IV psychosocial problems

As shown in Table 4, the two social variables of interest, years of educational attainment and number of current Axis IV psychosocial problems at the time of initial hospitalization, were somewhat modestly correlated ($\rho=-0.30$, $p=0.013$). Years of education completed was significantly inversely correlated with psychical abuse, emotional abuse, and harsh discipline scores. The number of current Axis IV psychosocial problems was directly

correlated with physical abuse, physical neglect, emotional neglect, and traumatic events, and harsh discipline scores.

3.4 Associations between child/adolescent abuse and traumatic experiences and substance use

Correlations between the age at initiation of alcohol use and age at initiation of cannabis use (which were correlated at $\rho=0.68$, $p<0.001$) were examined in relation to the child abuse/traumatic experiences variables. Physical abuse, physical neglect, TEC traumatic events, and violence exposure were significantly inversely correlated with the age at initiation of alcohol use. Only one of the trauma variables, violence exposure, was correlated with age at initiation of cannabis use.

Correlations between estimated lifetime alcohol intake and lifetime cannabis intake (which were correlated at $\rho=0.67$, $p<0.001$) were then assessed. As shown in Table 4, lifetime alcohol intake was significantly associated with TEC traumatic events, harsh discipline, and violence exposure. The magnitude of these correlations did not change meaningfully when controlling for age (given that lifetime alcohol intake may be partly dependent on age) using partial correlations. Lifetime cannabis use was significantly correlated with many of the trauma variables, including physical and emotional abuse, the CTQ total score, TEC traumatic events, and violence exposure. Again, correlations remained of a similar magnitude when controlling for age.

3.5 Associations between child/adolescent abuse and traumatic experiences and positive and negative symptom severity

The severity of positive symptoms, as indicated by the SAPS total score, was significantly correlated with the CTQ-SF emotional abuse, the TEC traumatic events, harsh discipline, and violence exposure. The severity of negative symptoms, as measured by the SANS total score, was significantly correlated with the CTQ-SF emotional neglect score only. Of note, positive symptom severity also correlated significantly with estimated lifetime cannabis intake ($\rho=0.27$), though not with the age at initiation of cannabis use or the alcohol use-related variables.

4. Discussion

This exploratory, correlational analysis relied on data from 61 hospitalized, first-episode psychosis patients who were predominantly male, African American, single, and socially disadvantaged. Nine variables representing childhood abuse and traumatic experiences were examined, though these variables were generally modestly to moderately correlated (the average inter-correlation was 0.36). Several key findings emerged. First, the rates of maltreatment and traumatic experiences in childhood and adolescence were remarkable high in the present sample. Second, the two social variables examined, years of educational attainment and number of current Axis IV psychosocial problems, were substantially correlated with several domains of child/adolescent abuse and traumatic events. Third, the age at initiation of alcohol and cannabis use, and estimated lifetime alcohol and cannabis intake, were significantly correlated with a number of trauma domains. Fourth, the severity of positive symptoms was significantly correlated with four of the trauma variables, whereas negative symptom severity was only significantly correlated with emotional neglect. Each of these findings will be discussed in turn.

The rates of maltreatment in childhood and adolescence within this sample of first-episode psychosis patients were relatively high when compared with rates reported in previous research. Scher and associates (2004) utilized the CTQ-SF in a large community sample of

approximately 1,000 participants. The means for the CTQ-SF from the present sample were on average three points higher across subscales than those from the community-based sample. For example, the mean score for the physical abuse subscale was 6.7 for males and 6.5 for females as compared to 9.5 (combined males and females) within this sample, and emotional abuse mean scores were 6.5 and 7.0 for males and females within the community sample, compared to 10.2 within this sample. Similarly, the prevalence of prior trauma endorsed in the TEC (96.6%) is high when compared with a study conducted at the primary care clinic of the same hospital, which found that 86.1% of women and 90.1% of men had a history of a significant trauma (Gillespie et al., 2009); however, comparisons are limited as the two studies used different instruments and the participants in the reference study were generally older. The present findings were consistent with other indications that individuals with psychotic disorders report higher rates of past childhood physical, emotional, and sexual abuse (Spence et al., 2006). However, even when compared to the sample of first-episode psychosis patients gathered by Üçok and Bikmaz (2007), the present sample showed a larger number of males reporting childhood physical abuse, (29.5% as compared to 6.8%). There were also higher rates of physical neglect in women within this sample as compared to the Üçok and Bikmaz sample (35.3% as compared to 14.2%).

Studies have documented associations between childhood traumatic experiences and negative mental health and social outcomes including an increased incidence of psychiatric disorders and poorer adjustment and coping in the general population (Browne and Finkelhor, 1986; Kessler et al., 1997; Horwitz, et al., 2001). Both longitudinal and cross-sectional data support the notion that childhood abuse is associated with poor mental health outcomes (Grella et al., 2005). As previously noted, studies examining psychiatric patient populations have found that individuals with histories of childhood trauma report impaired psychosocial functioning such as poor work attendance, decreased educational attainment, an increased incidence of suicide attempts, and more frequent and earlier psychiatric hospitalizations (Lysaker et al., 2001; Lysaker et al., 2004; Schenkel et al., 2005). Childhood trauma can clearly lead to a host of complications in functioning that have repercussions throughout the lifespan, as demonstrated by correlations with educational attainment and Axis IV psychosocial problems in this study.

Trauma in childhood/adolescence and later substance abuse has long been a topic of interest. Studies have clearly documented that childhood neglect and victimization in particular are associated with later substance abuse in individuals with chronic mental illnesses as well as prison populations (Widom et al., 1995; Widom et al., 1999). These results hold across community samples; individuals with childhood abuse histories are at increased risk of psychopathology over their lifetime, including substance use disorders in particular (MacMillan et al., 2001). Studies involving patients with first-episode psychosis have also documented the relationship between certain types of childhood abuse and later substance use (Compton et al., 2004). However, correlations between the trauma variables, cannabis use, and positive symptoms in the present sample are likely complex and not unidirectional. The nature of the associations is essential to explore more fully, given the adverse effects of substance abuse on the course of psychotic disorders and treatment adherence (Test et al., 1989).

Maltreatment and traumatic experiences in childhood and adolescence have been linked to the development of psychotic illness later in life (Janssen et al., 2004; Shevlin et al., 2007). Not only do individuals with childhood abuse and trauma have a higher incidence of psychotic disorders, but those who do develop a psychotic disorder have more severe psychotic symptoms (Lysaker et al., 2001; Schenkel et al., 2005; Üçok and Bikmaz, 2007). As shown in this study of first-episode patients, those with self-reported trauma histories have higher levels of positive symptoms at initial treatment-seeking. It is interesting to note

that this appears to also be true among individuals considered to be in a prodromal state; Thompson and colleagues (2009) found that in a cohort of prodromal young adults, physical, sexual, and emotional abuse were significantly associated with the severity of attenuated positive symptoms. In a recent study, Smeets and colleagues (2010) proposed that environmental risks such as trauma may increase the risk of delusional ideation in individuals who are already experiencing perceptual abnormalities, thereby worsening the prognosis of these subclinical experiences.

Several methodological limitations are noteworthy. The sample size was relatively small, though adequate to demonstrate the magnitude of the correlations of interest. Generalizability may be limited due to the specific sociodemographic and clinical characteristics of the study sample. Yet, given the relative homogeneity of the sample, internal validity is likely high. The study design was cross-sectional, limiting conclusions that can be made about causality. However, all ratings of childhood maltreatment and traumatic experiences referred to the 12–18-year age range, and all participants were at least 18 years of age at the time of admission for the first episode of psychosis. It would be helpful to have a control group to make comparisons on trauma and related variables, to broaden the findings. The assessment of prior trauma and other key variables was based entirely on participants' self report, which could be biased by their recent hospitalization; current symptomatology; or embarrassment, shame, or other intrapsychic factors. However, studies have found that individuals with psychosis report prior trauma quite reliably (Read et al., 2005; Fisher et al., 2009), and we had no evidence that trauma was over-reported or inaccurately portrayed as a function of the symptoms of a psychotic disorder. Although reliability and validity have not already been established for the TEC, the present findings (i.e., correlations with the CTQ abuse scores, harsh discipline, and violence exposure) may represent a first step toward demonstrating concurrent validity. This checklist was developed specifically for this study, given the lack of available measures that cover a broad array of child/adolescent traumatic experiences. However, reliability should be examined and further testing of validity is warranted. Finally, it would have been helpful to assess for signs and symptoms of posttraumatic stress disorder, which may overlap to some degree with some features of psychotic disorders. Given the results of this study, it is important to consider prior maltreatment and traumatic experiences during childhood and adolescence when assessing patients with first-episode psychosis. Clinicians should be cognizant of the high prevalence of past trauma when working with individuals who have a recent onset of psychosis and should routinely screen for such experiences. Research shows that mental health professionals may at times be reluctant to ask about childhood abuse, but a very small minority of patients will spontaneously offer that information without direct questions on the topic (Read et al., 2007). This information may help to inform targeted treatment plans addressing the complex relationship between the earlier trauma and current psychosis and comorbid substance abuse. Many abused individuals with serious mental illnesses believe that their prior traumas are causally related to their illness, and that this may affect their perceptions of treatment (Read et al., 2007). Treatment planning may benefit from targeting the trauma as well as the substance use. It may also be important for clinicians working with individuals at risk for developing psychosis to assess child/adolescent maltreatment and traumatic experiences.

Based on the present correlations, relevant research questions might include: (1) Is the initial hospitalization for new-onset psychosis more traumatizing among those who have experienced prior maltreatment and traumatic experiences in childhood and adolescence? That is, does a history of child abuse and trauma sensitize first-episode patients to perceiving undoubtedly stressful events as traumatic?; (2) To what extent are the reported prevalences of childhood/adolescent maltreatment and traumatic experiences tied to the particularly underprivileged social characteristics of the study sample? Furthermore, do correlations

between prior abuse/trauma and substance use and symptom severity differ from those reported here in samples that are less socially disadvantaged?; (3) Using more sophisticated analyses (e.g., structural equation modeling in larger samples) or more informative research designs (e.g., longitudinal studies), what is the exact nature of the associations between past maltreatment and traumatic experiences, current psychosocial difficulties, substance abuse, and symptom severity?; (4) Aside from assessing associations with positive symptoms as a group, what are the relations among past abuse and traumatic experiences and hallucinations and delusions separately?; and (5) Does a first-episode psychosis treatment approach that incorporates a specific focus on past traumatic events offer therapeutic benefits in key domains, including substance abuse and positive symptomatology? Future research should explore the longitudinal implications of these important risk factors during the early course of evolving psychotic disorders.

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Table 1**Sociodemographic Characteristics of the Study Sample (n=61)**

Age at hospitalization, years	23.6±5.0 (range: 18–37)
Educational attainment, years	11.7±2.2 (range: 8–17)
Gender, male	44 (72.1%)
Race	
<i>Black/African American</i>	54 (88.5%)
<i>White/Caucasian</i>	3 (4.9%)
<i>Other</i>	4 (6.6%)
Relationship status	
<i>Single and never married</i>	56 (91.8%)
<i>Married or living with a partner</i>	1 (1.6%)
<i>Separated or divorced</i>	4 (6.6%)
Who the patient was living with in the month prior to hospitalization	
<i>Parents, siblings, or other family members</i>	41 (67.2%)
<i>Alone</i>	5 (8.2%)
<i>Boyfriend, girlfriend, spouse, or partner</i>	5 (8.2%)
<i>Friends or roommate</i>	4 (6.6%)
<i>Homeless</i>	3 (4.9%)
<i>Other</i>	3 (4.9%)
Who raised the patient during most of his/her childhood	
<i>Mother</i>	23 (37.7%)
<i>Both parents</i>	22 (36.1%)
<i>Other family members</i>	12 (19.7%)
<i>Father</i>	3 (4.9%)
<i>Foster family</i>	1 (1.6%)
Work status in the month prior to hospitalization, unemployed	43 (70.5%)
Legal history, at least one prior incarceration	35 (57.4%)
Family income status, living below the federal poverty level (n=48)	22 (45.8%)

Table 2Clinical and Diagnostic Characteristics of the Study Sample ($n=61$)

Age at onset of psychosis, years	21.0±4.3 (range: 11–30)
Length of hospital stay, days	10.9±6.0 (range: 1–28)
Admission legal status, involuntary	49 (80.3%)
SCID-based psychotic disorder diagnosis	
<i>Schizophrenia, paranoid type</i>	20 (32.8%)
<i>Schizophreniform disorder</i>	9 (14.8%)
<i>Psychotic disorder not otherwise specified</i>	9 (14.8%)
<i>Schizophrenia, undifferentiated type</i>	7 (11.5%)
<i>Schizoaffective disorder, depressive type</i>	7 (11.5%)
<i>Schizoaffective disorder, bipolar type</i>	3 (4.9%)
<i>Schizophrenia, disorganized type</i>	2 (3.3%)
<i>Brief psychotic disorder</i>	2 (3.3%)
<i>Delusional disorder</i>	2 (3.3%)
SCID-based alcohol use disorder diagnosis ($n=60$)	
<i>Abuse, current</i>	1 (1.7%)
<i>Abuse, past five years</i>	4 (6.7%)
<i>Dependence, current</i>	5 (8.3%)
<i>Dependence, past five years</i>	4 (6.7%)
SCID-based cannabis use disorder diagnosis ($n=59$)	
<i>Abuse, current</i>	5 (8.5%)
<i>Abuse, past five years</i>	3 (5.1%)
<i>Dependence, current</i>	17 (28.8%)
<i>Dependence, past five years</i>	7 (11.9%)

Table 3

Mean CTQ-SF Subscale Scores in the Overall Sample and Rates of Child/Adolescent Trauma among Male and Female First-Episode Patients ($n=61$)

	Mean±SD, Total Sample	Moderate to Severe Abuse	
		n (%), Men	n (%), Women
Physical abuse	9.5±4.1	13 (29.5%)	3 (17.6%)
Emotional abuse	10.2±4.5	18 (41.9%)	6 (35.3%)
Sexual abuse	7.7±4.6	13 (29.5%)	5 (29.4%)
Emotional neglect	9.9±4.8	8 (18.2%)	3 (17.6%)
Physical neglect	8.1±3.3	12 (27.3%)	6 (35.3%)

Table 4

Correlations amongst All Key Variables

	Physical abuse	Emotional abuse	Sexual abuse	Emotional neglect	Physical neglect	CTQ total scale	TEC traumatic events	Harsh discipline	Violence exposure	Years of education	Axis IV problems	Age of 1st alcohol use	Lifetime alcohol use	Age of 1st cannabis use	Lifetime cannabis use	Positive symptoms
Physical abuse																
Emotional abuse	.57 [†]															
Sexual abuse	.18	.43 [†]														
Emotional neglect	.36 [†]	.52 [†]	.26*													
Physical neglect	.33*	.51 [†]	.35 [†]	.71 [†]												
CTQ total scale	.63 [†]	.82 [†]	.53 [†]	.80 [†]	.78 [†]											
TEC traumatic events	.40 [†]	.47 [†]	.35 [†]	.16	.20	.37 [†]										
Harsh discipline	.58 [†]	.44 [†]	-.08	.24	.14	.37 [†]	.26									
Violence exposure	.56 [†]	.41 [†]	.23	.15	.10	.35 [†]	.67 [†]	.34 [†]								
Years of education	-.29*	-.32 [†]	.03	-.17	-.15	-.23	-.27*	-.30*	-.22							
Axis IV problems	.27*	.20	-.08	.30*	.28*	.34 [†]	.12	.28*	.13	-.31*						
Age of 1st alcohol use	-.30*	-.14	-.25	-.24	-.31*	-.31*	-.32*	-.19	-.29*	.24	-.21					
Lifetime alcohol use	.24	.18	.19	.10	.22	.21	.38 [†]	.21	.38 [†]	-.23	.24	-.40 [†]				
Age of 1st cannabis use	-.21	.04	.01	-.08	.04	-.07	-.13	-.15	-.31*	.28	-.10	.68 [†]	-.14			
Lifetime cannabis use	.29*	.32*	.15	.13	.21	.28*	.50 [†]	.25	.47 [†]	-.40 [†]	.13	-.39 [†]	.67 [†]	-.41 [†]		
Positive symptoms	.21	.33 [†]	.10	-.03	-.05	.16	.29*	.35 [†]	.41 [†]	-.12	.20	-.15	.17	-.13	.27*	
Negative symptoms	.11	.11	-.07	.25*	.15	.17	-.24	-.05	-.10	-.21	.18	-.19	-.08	-.18	-.05	.10