

Childhood Maltreatment, Alcohol Use Disorders, and Treatment Utilization in a National Sample of Emerging Adults

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ABSTRACT. Objective: The purpose of this study was to examine the relationship between childhood maltreatment and alcohol use disorders (AUDs), treatment utilization, and barriers to treatment in a national sample of emerging adults. Multiple types of maltreatment were examined, including childhood emotional abuse and neglect. **Method:** The analyses are based on data from 18- to 25-year-olds ($N = 4,468$) who participated in the National Epidemiologic Survey on Alcohol and Related Conditions. **Results:** Adjusted for sociodemographic characteristics, we found that childhood maltreatment was associated with a greater likelihood of an AUD and a greater likelihood of accessing treatment, although these relationships were no longer significant once psychiatric comorbidities and other substance use disorders were included as control

variables. We also found significant interaction effects for age; differences in the prevalence of AUDs among those who experienced physical abuse and multiple types of maltreatment were larger for the older age group. Finally, among those with AUDs, maltreatment was associated with specific perceived barriers to treatment. **Conclusions:** The current findings highlight childhood maltreatment, including emotional abuse and neglect, as important correlates of AUDs among emerging adults but indicate that these relationships may be accounted for by other psychiatric comorbidities. Barriers to treatment among individuals with AUDs may reflect maltreatment experiences and should be addressed in both policy and practice. (*J. Stud. Alcohol Drugs*, 74, 185–194, 2013)

ALCOHOL USE DISORDERS (AUDs) are among the most prevalent mental health disorders, with 8.4% of adults meeting criteria for alcohol abuse or dependence (National Institute on Alcohol Abuse and Alcoholism, 2006). In 2000, the World Health Organization (WHO) estimated that alcohol was the third largest contributor to the burden of illness in developed countries (WHO, 2003), and in 2007, the Centers for Disease Control and Prevention estimated that 7.7% of deaths in the United States were alcohol induced (not including deaths attributable to alcohol-related accidents or unintentional injuries; Xu et al., 2010). AUDs are of particular concern in emerging adulthood, the period of development from the late teens to early twenties (ages 18–25 years), and a period marked by transitions and instability

(Arnett, 2000). High rates of alcohol use and alcohol-related problems during emerging adulthood are well documented (Grant et al., 2004b; Wechsler et al., 2001; White and Jackson, 2004/2005). For example, according to the 2010 Drug Use and Health Survey, 18- to 25-year-olds had the highest prevalence of past-year alcohol abuse or dependence, with 19.8% of 18- to 25-year-olds meeting criteria for an AUD (Substance Abuse and Mental Health Services Administration [SAMHSA], 2011). Examining factors contributing to AUDs in emerging adulthood is an important first step in reducing the prevalence of AUDs during this vulnerable developmental stage.

There is considerable evidence that childhood maltreatment contributes to the development of AUDs, with support from both the adolescent and adult literatures (Fetzner et al., 2011; Gilbert et al., 2009). There are several possible reasons for this relationship, including an increased likelihood of AUDs as a means of coping with maltreatment experiences (Goldstein et al., 2010; Grayson and Nolen-Hoeksema, 2005) or greater susceptibility to AUDs among individuals with maltreatment histories because of the intergenerational transmission of AUDs by parents who maltreat their children, many of whom have an AUD themselves (Trocmé et al., 2010). To date, however, much of the research on the relationship between child maltreatment and AUDs has

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focused on adult and adolescent treatment samples (for reviews, see Simpson and Miller, 2002; Tonmyr et al., 2010). Because individuals in treatment often present with more severe AUDs than those in the general population (Bucholz et al., 1994), it is difficult to generalize findings from these clinical samples.

In studies involving community samples of emerging adults, previous researchers have used limited definitions of childhood maltreatment, with most studies focusing on sexual and/or physical abuse (Fergusson et al., 2008; Lo and Cheng, 2007; Molnar et al., 2001). For example, in their study examining the relationship between childhood maltreatment and substance dependence in a community sample of emerging adults, Fergusson et al. found a significant relationship between childhood maltreatment and substance dependence. However, this study focused on substance dependence in general and not AUDs specifically, and findings were limited to childhood physical and sexual abuse and not other forms of maltreatment (i.e., emotional abuse, neglect). Using data from the National Comorbidity Survey, Molnar et al. found a significant relationship between childhood sexual abuse and alcohol dependence among 15- to 24-year-olds. Again, the focus of this study did not extend beyond sexual abuse. In their examination of the relationship between trauma severity, AUDs, and health status in older adolescence/emerging adulthood, Clark et al. (2010) found that trauma severity was associated with an AUD diagnosis. Although this study included multiple types of trauma, only sexual and physical abuse were included in the family-related trauma category, and the sample primarily consisted of older adolescents (i.e., 13- to 19-year-olds).

To date, few studies have included emotional abuse or neglect, despite researchers calling for a consideration of these other forms of maltreatment (Glaser, 2002). Neglect, for example, is the dominant maltreatment type reported to child protective service agencies in the United States (U.S. Department of Health and Human Services, 2010), and researchers have identified higher rates of heavy episodic drinking among adolescents with a history of serious neglect (Shin et al., 2009). Higher rates of AUDs were also found among those who have experienced less severe types of neglect (i.e., supervisory neglect; Clark et al., 2005). In addition, recent findings highlight the significant negative sequelae of emotional maltreatment (see Yates and Wekerle, 2009), including effects on physical and mental health (WHO, 2006), neurological development (van Harmelen et al., 2010), and social competence and adjustment (Shaffer et al., 2009). Examining multiple forms of child maltreatment, including emotional abuse and neglect, should provide a more comprehensive understanding of the relationship between maltreatment and AUDs. It would also allow for an examination of differences between individuals who have experienced one versus multiple types of maltreatment.

Finally, we are aware of no study that has specifically examined the relationship between child maltreatment and help seeking among young people with AUDs. Theoretical models of health service utilization (i.e., Behavioral Model for Vulnerable Populations; Gelberg et al., 2000) indicate that child maltreatment contributes to difficulties accessing services, which may further marginalize emerging adults with AUDs. In general, a minority of individuals with an AUD access treatment services (Cohen et al., 2007), and emerging adults face further difficulties because they are caught between two service-delivery systems: child and adolescent services on the one end, and adult services on the other. Using data from the National Household Survey on Drug Abuse, Wu and Ringwalt (2004) found that, compared with older adults (35–64 years old), young alcohol-dependent adults (18–25 years old) were less likely to perceive a need for and to access alcohol treatment services. These authors suggested that people may need to experience substantial alterations in their daily functioning before they seek treatment. Given that help seeking is an important predictor of recovery from AUDs (Dawson et al., 2006), it is essential to identify factors that contribute to service utilization in vulnerable populations to inform related service-delivery policies and practices.

In this study, we examined the relationship between a history of childhood maltreatment (physical abuse, sexual abuse, emotional abuse, and physical neglect) and AUDs in a nationally representative sample of emerging adults (ages 18–25 years). Specifically, this study uses data from the National Epidemiologic Survey of Alcohol and Related Conditions (NESARC). Previous researchers have already identified a significant relationship between child maltreatment and AUDs in the NESARC sample (Afifi et al., 2012; Fetzner et al., 2011), but the current study is the first to examine this relationship in emerging adults only. To further understand the relationship between child maltreatment and AUDs in emerging adulthood, we also explored the moderating effects of age. The higher prevalence of AUDs during emerging adulthood may mask the effects of child maltreatment, resulting in stronger relationships between child maltreatment and AUDs for middle and older adults (Widom et al., 2007). In addition, because comorbid mood, anxiety, other substance use, and personality disorders may partially explain the relationship between child maltreatment and AUDs among emerging adults (Keyes et al., 2012), we conducted two sets of analyses: one set included sociodemographic variables as control variables, and the other set included both sociodemographic variables and comorbid diagnoses. We also included parental history of alcohol problems given previous research highlighting parental alcohol problems as a significant risk factor for both childhood maltreatment (e.g., Trocmé et al., 2010) and offspring AUDs (for a review, see Campbell and Oei, 2010). Finally, because of theoretical models highlighting child maltreatment as a barrier to treatment utilization and a need to better understand

why vulnerable young adults with AUDs may or may not access treatment, we also investigated the relationship between a history of childhood maltreatment, treatment utilization, and perceived barriers to accessing treatment among those with an AUD.

Method

Survey

Data were drawn from Waves 1 and 2 of the NESARC, a nationally representative sample of noninstitutionalized American adults (Grant and Kaplan, 2005; Grant et al., 2003b). The first wave of the NESARC was collected in 2001 and 2002 and surveyed 43,093 respondents age 18 and older (Grant et al., 2003b). Excluding individuals who were ineligible for follow-up, 86.7% of the original sample (i.e., those who completed Wave 1 of the survey) completed Wave 2 of the survey, resulting in a final sample of 34,653 respondents (Grant and Kaplan, 2005). Although the current study includes data from both waves of the study, childhood maltreatment was assessed at Wave 2 only; as a result, our analyses include respondents who completed both waves. All data were collected via face-to-face computerized interviews by trained lay interviewers. Information on the sampling and weighting procedures of the NESARC can be found elsewhere (Grant et al., 2003b, 2004a; Grant and Kaplan, 2005).

Measures

Childhood maltreatment. The NESARC survey measured childhood maltreatment with questions adapted from the Adverse Childhood Events study (Dong et al., 2003; Dube et al., 2003), which is based on questions from the Childhood Trauma Questionnaire (Bernstein et al., 1994) and the Conflict Tactics Scale (Straus, 1979; Straus et al., 1996). These questions assessed the extent respondents had ever experienced emotional abuse, physical abuse, sexual abuse, or physical neglect. With the exception of physical neglect, possible responses to these questions were on a five-point scale (*never, almost never, sometimes, fairly often, or very often*). For physical neglect, items were reverse coded, and the original response options were 1 (*never true*), 2 (*rarely true*), 3 (*sometimes true*), 4 (*often true*), and 5 (*very often true*).

Two questions assessed physical abuse: “How often did a parent or other adult living in your home push, grab, shove, slap, or hit you?” and “How often did a parent or other adult living in your home hit you so hard that you had marks or bruises or were injured?” Respondents were coded as having experienced physical abuse if they answered *sometimes, fairly often, or very often* to either of the aforementioned questions.

For childhood sexual abuse, respondents indicated how often (a) an adult or other person fondled or sexually touched them, (b) an adult or other person had them (the respondent) fondle or sexually touch the adult or other person, and (c) an adult attempted intercourse or had intercourse with them (the respondent) when they did not want the act to occur or were too young to know what has happened to them (Wyatt, 1985). Respondents were classified as having experienced sexual abuse if they answered anything other than *never* to any of these questions.

Three questions were used to assess childhood emotional abuse. Respondents indicated how often a parent or other adult living in the home (a) swore at, insulted, or said hurtful things to the respondent; (b) threatened to hit or throw something at the respondent; or (c) acted in any other way that made the respondent afraid he or she would be physically hurt or injured. If individuals responded *fairly often* or *very often* to any of these three questions, they were identified as having experienced emotional abuse. Criteria for establishing physical abuse, sexual abuse, and emotional abuse are consistent with previous studies using the NESARC to examine these types of maltreatment (Afifi et al., 2011a, 2011b).

Four questions assessed physical neglect. Respondents were asked how often they (a) were left alone or unsupervised before the age of 10; (b) went hungry; (c) went without needed clothes, shoes, or school supplies; or (d) went without needed medical treatment. Respondents were classified as having experienced childhood physical neglect if they answered anything other than *never* to any of these four questions. This definition is consistent with previous studies using the NESARC to examine physical neglect (Afifi et al., 2011a, 2011b).

A binary “any maltreatment” variable was derived by recoding each of the four types of maltreatment variables into one variable, with 1 indicating that the participant reported some form of maltreatment and 0 indicating that the participant reported no maltreatment. In addition, summing the number of types of maltreatment and creating a single variable with three levels created a categorical cumulative maltreatment variable, with 0 indicating no maltreatment, 1 indicating one type of maltreatment, and 2 indicating two or more types of maltreatment.

Alcohol abuse and dependence. The Alcohol Use Disorder and Associated Disabilities Interview Schedule—DSM-IV Version (AUDADIS-IV) (Grant et al., 2001; Ruan et al., 2008) was used to diagnose lifetime alcohol abuse or dependence according to DSM-IV criteria (American Psychiatric Association, 1994) and was administered at Waves 1 and 2 of the NESARC. This standardized, structured diagnostic interview has been shown to have fair to good reliability (Grant et al., 2003a; Ruan et al., 2008) and provide valid AUD diagnoses (Canino et al., 1999; Cottler et al., 1997).

Comorbid mood, anxiety, and substance use disorders. The AUDADIS-IV (Grant et al., 2001; Ruan et al., 2008) also

includes modules that assess (a) substance use disorders, (b) mood disorders (major depression, dysthymia, mania, and hypomania), (c) anxiety disorders (panic disorder, specific phobia, social phobia, agoraphobia, generalized anxiety disorder, and posttraumatic stress disorder), and (d) personality disorders (paranoid, schizoid, schizotypal, antisocial, borderline, histrionic, narcissistic, obsessive-compulsive, and avoidant). These modules were elaborated using DSM-IV criteria.

Treatment for alcohol use and barriers to care. Individuals with an AUD were asked whether they had ever engaged in treatment for their drinking. Treatment included (a) receiving inpatient or outpatient services or (b) seeing a physician, counselor, or any other type of professional or attending meetings of Alcoholics Anonymous or any other type of community agency. Respondents who had a lifetime AUD were asked if they chose not to seek professional help for their drinking despite thinking they needed help. If respondents answered *yes* to this question, they received follow-up questions assessing reasons for not seeking treatment, including attitudinal and structural barriers to care. Respondents were asked to endorse all barriers that applied to them.

Sociodemographic and background variables. The sociodemographic variables examined in the current analysis included sex, age, race (White, Asian, Hispanic, Black, or American Indian/Alaska Native), education (less than high school, high school or equivalent, or some college or more), household income (U.S. \$0–\$19,999, \$20,000–\$34,999, \$35,000–\$59,999, or \$60,000 or more), and marital status (married, never married, or widowed/divorced/separated). In addition, participants were asked a single question regarding their parent's alcohol use: "Was your blood/natural mother/father ever an alcoholic or problem drinker?" Separate items were included for mother and father, and a single dichotomous variable was created indicating whether one or both parents ever had problems with alcohol.

Statistical methods

First, we used adjusted logistic regression analyses to examine the relationship between childhood maltreatment and lifetime AUDs. We ran separate analyses using each type of maltreatment as the independent variable and lifetime AUDs as the dependent variable. We ran the same analyses using any maltreatment as the independent variable (vs. no maltreatment) and using the number of maltreatment types as the independent variable, with zero types of maltreatment as the reference group compared with one type of maltreatment and two or more types of maltreatment. In these analyses, we calculated two models. For the first model, adjusted odds ratios (AOR-1) were adjusted for sociodemographic variables and parental alcohol problems, and adjusted odds ratios for the second model (AOR-2) were adjusted for so-

ciodemographic variables, parental alcohol problems, any lifetime mood disorder, any lifetime anxiety disorder, any lifetime drug use disorder, and any lifetime personality disorder. Second, we used adjusted logistic regression analyses to examine the relationship between lifetime AUDs and the interaction of any childhood maltreatment and other Axis I disorders adjusting for age, sex, race, education, income, and marital status. To minimize the number of comparisons and ensure adequate sample size for these analyses, we limited this analysis to a single maltreatment variable (i.e., any maltreatment). Third, we examined the relationship between each of the childhood maltreatment variables from the first set of analyses and treatment for a lifetime AUD among individuals with a lifetime AUD using adjusted logistic regressions. Again, we calculated two models: AOR-1 was adjusted for sociodemographic variables and parental alcohol problems, and AOR-2 was adjusted for sociodemographic variables, parental alcohol problems, and comorbid substance use and psychiatric diagnoses. Fourth, to determine whether significant relationships were stronger for emerging adults compared with other adults, we examined interactions between all of the child maltreatment variables and age. We created two age categories representing emerging adulthood (18–25 years) versus all other ages (26–65 years) and adjusted for sociodemographic variables, parental alcohol problems, any lifetime mood disorder, any lifetime anxiety disorder, any lifetime drug use disorder, and any lifetime personality disorder. Finally, we used cross-tabulations and chi-square analyses to examine the relationship between any childhood maltreatment and barriers to treatment among individuals with a lifetime history of an AUD. These analyses were also limited to a single maltreatment variable (i.e., any maltreatment) because of the small number of participants who had an AUD diagnosis and had accessed treatment.

To account for the complex sampling design of the NESARC, we conducted all analyses with the SUDAAN statistical software (Shah et al., 1995) while using the Taylor series linearization method of variance estimation. We used the statistical weights and stratification variables supplied by the NESARC for all analyses. This method ensured that our analyses were representative of the U.S. population.

Results

For the purpose of the primary analyses, all individuals older than age 25 were excluded, and our total sample consisted of 4,468 individuals ages 18–25 years at Wave 1. The weighted mean age of the sample was 21.39 years ($SE = 0.04$), and the sample consisted of an equal number of male (50.1%) and female emerging adults. The majority of individuals were non-Hispanic White (62.4%), whereas 17.3% were Hispanic, 13.4% were Black, 5.2% were Asian, and 1.6% were American Indian. In addition, most individuals were never married (72.9%), whereas 25.4% of individuals

TABLE 1. Association between childhood maltreatment and lifetime alcohol use disorder among emerging adults

Variable	No maltreatment <i>n</i> (%)	Maltreatment <i>n</i> (%)	AOR-1 [95% CI]	AOR-2 [95% CI]
Type of maltreatment				
Childhood physical abuse	1,357 (38.3)	309 (47.0)	1.43 [1.15, 1.79]***	1.02 [0.78, 1.33]
Childhood sexual abuse	1,491 (39.6)	174 (40.2)	1.41 [1.07, 1.85]*	0.92 [0.68, 1.23]
Childhood emotional abuse	1,485 (38.5)	181 (52.9)	1.81 [1.32, 2.49]***	1.27 [0.88, 1.82]
Childhood physical neglect	1,176 (37.0)	489 (48.0)	1.42 [1.15, 1.76]**	1.15 [0.92, 1.44]
Any type of maltreatment	960 (36.4)	706 (45.7)	1.52 [1.27, 1.82]***	1.16 [0.95, 1.42]
Number of maltreatment types				
One ^a	—	428 (45.0)	1.48 [1.20, 1.83]***	1.23 [0.99, 1.54]
Two or more ^b	—	274 (47.1)	1.09 [0.81, 1.46]	0.84 [0.62, 1.13]

Notes: AOR-1 = Odds ratios adjusted for age, sex, race, education, income, marital status, and parent alcoholic or problem drinker; AOR-2 = odds ratios adjusted for age, sex, race, education, income, marital status, parent alcoholic or problem drinker, any lifetime mood disorder, any lifetime anxiety disorder, any lifetime drug use disorder, any lifetime personality disorder. Odds ratios reflect the likelihood of an AUD diagnosis among individuals with maltreatment compared to those with no maltreatment; CI = confidence interval. ^aReference category for logistic regression is no maltreatment; ^breference category for logistic regression is one type of maltreatment.

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

were married or common law, and only 1.7% of individuals were separated, widowed, or divorced. In terms of household income, 30.8% earned less than \$20,000 per year, 22.1% earned between \$20,000 and \$34,999 per year, 23.9% earned between \$35,000 and \$59,999 per year, and 23.3% earned \$60,000 or more per year.

In total, 39.6% of the sample met criteria for an AUD ($n = 1,670$), with 14.6% of the sample meeting the criteria for alcohol abuse ($n = 629$) and 25.0% meeting the criteria for alcohol dependence ($n = 1,041$). A large proportion of individuals in the sample reported experiences of childhood maltreatment (35.0%): 14.2% experienced childhood physical abuse, 8.9% sexual abuse, 7.3% emotional abuse, and 23.8% physical neglect. The prevalence of each type of childhood maltreatment in the sample of participants with a lifetime AUD as well as the AORs for associations between types of maltreatment and lifetime AUD are presented in Table 1. As illustrated in Table 1, all three types of childhood abuse as well as physical neglect were associated with an increased likelihood of having a lifetime AUD diagnosis after adjusting for sociodemographic variables and parental alcohol problems. In addition, experiencing any maltreatment (vs. no maltreatment) and experiencing one type of maltreatment (vs. no maltreatment) were both associated with an increased likelihood of an AUD diagnosis. Experiencing two or more types of maltreatment (vs. no maltreatment) was not associated with an increased likelihood of an AUD diagnosis. In addition, none of the associations remained significant once Axis I disorders were included in the models (Table 1, AOR-2), and no significant associations were observed between lifetime AUDs and the interaction of any childhood maltreatment and other Axis I mental disorders (results available on request).

The associations between childhood maltreatment and treatment for lifetime AUD are shown in Table 2. Childhood physical abuse, childhood emotional abuse, and any type of

maltreatment were associated with an increased likelihood of treatment for lifetime AUD after adjusting for sociodemographic variables. Again, none of the associations between childhood abuse and treatment for lifetime AUD remained significant after controlling for sociodemographic variables and lifetime mental disorders.

Interactions between age and the four types of maltreatment, any maltreatment, and number of maltreatment types were examined for both lifetime AUDs and treatment for lifetime AUDs. All models adjusted for sociodemographic variables, parental alcohol problems, and comorbid psychiatric and substance use disorders. Two significant findings emerged. For the likelihood of lifetime AUDs, there was a significant effect for Age \times Physical Abuse (AOR = 1.36, 95% CI [1.02, 1.83]) and Age \times Number of Maltreatment Types (AOR = 1.18, 95% CI [1.02, 1.37]). For both models, the relationship between child maltreatment and AUDs was stronger for the older age group, although the overall prevalence of AUDs was higher for the younger age group. Specifically, for physical abuse, there was a larger difference in the prevalence of AUDs for those with and without a history of physical abuse in the older age group (45.4% vs. 31.2%) compared with the younger age group (47.0% vs. 38.3%). For the number of maltreatment types, the prevalence of AUDs in the older age group was 29.2%, 37.8%, and 46.6% for those with zero, one, and two or more types of maltreatment, respectively, whereas for emerging adults, the prevalence was 36.4%, 45.0%, and 47.1%, respectively.

The associations between childhood maltreatment and specific barriers to treatment among individuals with lifetime AUD are illustrated in Table 3. These barriers were only endorsed by those individuals who indicated that they chose not to seek help for their drinking, despite thinking that they needed help. Individuals with a history of childhood maltreatment were significantly more likely to endorse the following barriers to treatment for lifetime AUD: "didn't think

TABLE 2. Association between childhood maltreatment and treatment for lifetime alcohol use disorder among emerging adults

Variable	No maltreatment <i>n</i> (%)	Maltreatment <i>n</i> (%)	AOR-1 [95% CI]	AOR-2 [95% CI]
Type of maltreatment				
Childhood physical abuse	157 (11.8)	55 (20.1)	1.60 [1.00, 2.56]*	1.26 [0.78, 2.03]
Childhood sexual abuse	182 (12.7)	29 (16.4)	1.24 [0.70, 2.19]	0.92 [0.52, 1.62]
Childhood emotional abuse	176 (11.6)	35 (26.8)	2.09 [1.22, 3.58]**	1.70 [0.93, 3.12]
Childhood physical neglect	137 (11.7)	75 (16.9)	1.20 [0.79, 1.80]	1.02 [0.67, 1.56]
Any type of maltreatment	100 (10.4)	112 (17.4)	1.53 [1.05, 2.22]*	1.24 [0.84, 1.83]
Number of maltreatment types				
One ^a	—	63 (14.9)	1.37 [0.90, 2.07]	1.20 [0.79, 1.84]
Two or more ^b	—	48 (20.8)	1.23 [0.70, 2.17]	1.01 [0.55, 1.85]

Notes: AOR-1 = Odds ratios adjusted for age, sex, race, education, income, marital status, and parent alcoholic or problem drinker; AOR-2 = odds ratios adjusted for age, sex, race, education, income, marital status, parent alcoholic or problem drinker, any lifetime mood disorder, any lifetime anxiety disorder, any lifetime drug use disorder, any lifetime personality disorder. Odds ratios reflect the likelihood of seeking treatment for an AUD diagnosis among individuals with maltreatment compared to those with no maltreatment; CI = confidence interval. ^aReference category for logistic regression is no maltreatment; ^breference category for logistic regression is one type of maltreatment.

* $p < .05$; ** $p < .01$.

anyone could help,” “thought the problem would get better by itself,” “thought I should be strong enough to handle it alone,” “my family thought I should go but I didn’t think so,” and “I didn’t want to go.”

Discussion

The current study is novel in several ways. It is one of the first studies to establish an association between multiple forms of maltreatment (childhood physical, emotional,

sexual abuse, and physical neglect) and AUDs in a large, nationally representative U.S. sample of emerging adults (ages 18–25 years), a population at risk for higher levels of alcohol use and AUDs. The current findings indicate that emerging adults with a history of childhood maltreatment are at greater risk for developing a lifetime AUD diagnosis. This is consistent with previous studies identifying childhood physical and sexual abuse as significant correlates of AUDs among emerging adults (Fergusson et al., 2008; Lo and Cheng, 2007; Molnar et al., 2001).

TABLE 3. Association between any childhood maltreatment and barriers to treatment for lifetime alcohol use disorder

Barrier to treatment	Any childhood maltreatment		χ^2
	No <i>n</i> (%)	Yes <i>n</i> (%)	
Insurance didn’t cover it	6 (0.7)	3 (1.0)	0.15
Didn’t think anyone could help	5 (0.6)	16 (2.3)	4.94*
Tried treatment before and it didn’t work	4 (0.7)	6 (1.0)	0.37
Couldn’t afford to pay the bill	8 (0.8)	15 (2.1)	2.97
Didn’t have any way to get there	4 (0.4)	8 (1.6)	3.54
Didn’t have time	8 (1.4)	17 (2.4)	1.21
Thought the problem would get better by itself	18 (1.8)	32 (5.0)	8.00**
Too embarrassed to discuss the problem with others	7 (1.0)	13 (2.1)	1.83
Afraid of what others would think	5 (0.9)	9 (1.3)	0.43
Thought I should be strong enough to handle it alone	20 (2.2)	30 (4.8)	5.56*
Afraid they would put me in the hospital	5 (.9)	7 (1.0)	0.01
Hated answering personal questions	7 (0.8)	7 (0.9)	0.11
My family thought I should go but I didn’t think so	4 (0.5)	11 (2.1)	4.77*
Afraid I would lose my job	2 (0.2)	3 (0.6)	1.05
Wanted to keep drinking or got drunk	5 (0.7)	8 (1.5)	1.54
I didn’t think the problem was serious enough	11 (1.1)	16 (2.7)	3.49
I didn’t want to go	5 (0.4)	16 (3.6)	7.65**
I stopped drinking on my own	11 (1.6)	18 (2.6)	1.22
My friends or family helped me stop	4 (0.5)	7 (1.1)	0.90

Note: Reasons with $ns \leq 2$ are not displayed.

* $p < .05$; ** $p < .01$.

Our study adds to existing knowledge, as we found that both physical neglect and emotional abuse were also associated with an increased likelihood of an AUD diagnosis only when other comorbid diagnoses were not considered. In fact, the likelihood of an AUD diagnosis was the highest for emotional abuse. Although previous researchers have identified emotional abuse and neglect as important predictors of heavy drinking and AUDs in adolescents (Clark et al., 2005; Lloyd and Turner, 2008; Shin et al., 2009), we have found no study that examined this relationship in emerging adults. In addition, these previous studies were limited to milder forms of neglect (i.e., supervisory neglect; Clark et al., 2005), milder forms of alcohol use (i.e., heavy episodic drinking; Shin et al., 2009), and alcohol dependence only (not alcohol abuse; Lloyd and Turner, 2008).

Despite these significant relationships, the current findings also highlight the significant overlap between AUDs and other comorbid diagnoses, including substance use, mood, anxiety, and personality disorders. When these comorbid diagnoses were included in the models, the significant relationships between maltreatment and AUDs disappeared. This is consistent with findings from Keyes et al. (2012), who examined the relationship between child maltreatment and two latent factors representing internalizing and externalizing disorders. They found that the specific relationships between maltreatment and individual psychiatric diagnoses disappeared once the internalizing and externalizing dimensions were accounted for. Keyes et al. (2012) suggested that associations between maltreatment and psychiatric disorders more accurately reflect an association between maltreatment and a general tendency to experience internalizing and externalizing psychopathology.

We also found a significant moderating effect of age on the relationship between child maltreatment and AUD diagnosis. For both physical abuse and number of types of maltreatment, the effects of maltreatment were stronger for the older age group. These findings are consistent with Widom et al. (2007), who proposed that the greater prevalence of AUDs in younger adults might mask significant relationships between maltreatment and AUDs. In longitudinal studies of adults, there is typically a maturing out of AUDs from young to middle adulthood (Jackson et al., 2006; Jacob et al., 2005). Although longitudinal data are needed to examine the impact of child maltreatment on AUDs over time, our findings suggest that child maltreatment may contribute to the persistence of AUDs following emerging adulthood.

It is important to note that the rates of AUDs in the current study are considerably higher than those reported in other national surveys (e.g., National Survey on Drug Use and Health; SAMHSA, 2011). This may reflect differences in the assessment of AUDs across studies. In the NESARC, the diagnosis of an AUD is based on a structured interview, whereas the National Survey on Drug Use and Health uses a computer-administered assessment of AUDs. The in-person

interview may have permitted clarification of questions, resulting in greater endorsement of AUD symptoms. In addition, the current study includes data from two assessments (Waves 1 and 2). This two-stage assessment process may result in a larger number of individuals receiving an AUD diagnosis because participants who did not receive an AUD diagnosis in the first wave could receive one in Wave 2.

To our knowledge, this is the first study to examine the relationship between childhood maltreatment, service utilization, and barriers among emerging adults with AUDs. Overall, 12.7% of the current sample of emerging adults who received an AUD diagnosis had sought treatment, which is very similar to the total percentage of individuals in the NESARC who have ever sought treatment for an AUD (14.6%; Cohen et al., 2007). These percentages are also similar to those obtained by Wu and Ringwalt (2004), who found that 13% of women and 12% of men sought alcohol treatment services. This indicates that although a percentage of individuals do seek treatment either during or before emerging adulthood, many more do not seek or may abandon treatment. The latter speaks to the importance of exploring factors that facilitate or hinder treatment use for people in this developmental stage.

Interestingly, we found that maltreatment history (i.e., physical abuse, emotional abuse, any maltreatment) was associated with an increased likelihood of accessing treatment for AUDs when controlling for sociodemographic variables and parental alcohol problems; however, when other psychiatric and substance use disorders were considered, child maltreatment was no longer associated with treatment utilization. This is consistent with previous research highlighting high rates of comorbid disorders among individuals with histories of childhood maltreatment who are receiving treatment for a substance use disorder (Wu et al., 2010). Individuals with histories of maltreatment may be more likely to access services because of their complex treatment needs, including the need for concurrent disorder services to treat AUDs and comorbid psychiatric diagnoses (Grella et al., 2001; Grella and Joshi, 2003). Alternatively, greater use of services among those with maltreatment histories may be attributable to their involvement with other service sectors (e.g., child protective services, mental health services), which can facilitate access to substance use services (i.e., via Medicaid; Harman et al., 2000).

Although child maltreatment was associated with increased odds of using treatment services, the large majority of participants with a history of child maltreatment did not access treatment (93.3%). These findings highlight the need to further understand barriers that deter emerging adults from seeking treatment services. Emerging adults with AUDs and a history of maltreatment were more likely than those without maltreatment to endorse barriers that reflect an underlying belief that others are unhelpful (“didn’t think anyone could help,” “thought I should be strong enough

to handle it alone”) and a lack of confidence in treatment (“thought the problem would get better by itself”), despite others encouraging it (“my family thought I should go, but I didn’t think so”). On the one hand, some of these barriers may reflect young people’s determination to solve problems independently because of societal expectations of self-reliance once one has become an adult. On the other hand, these beliefs may be associated with distrust of others—that is, the expectation that others will act in harmful ways (Lewicki et al., 1998). Distrust is a pervasive consequence of childhood maltreatment (Hegadoren et al., 2006). A history of childhood maltreatment is also associated with a persistent search for safety, control, and voice in a world that is continually perceived as dangerous (Pitre et al., 2011).

Limitations and future directions

There are some limitations of this study. Assessment of maltreatment is based on retrospective self-reports, which may be subject to biases in reporting and recall. People who have experienced maltreatment may be particularly sensitive to issues of confidentiality and uncomfortable with disclosing maltreatment during an interview (Catania, 1999). In addition, because of the cross-sectional nature of these data, inferences regarding causation cannot be made. Finally, we were unable to examine the specific relationship between child maltreatment and alcohol abuse versus dependence because of the small cell sizes once the sample was reduced to individuals with an AUD and individual types of maltreatment. Although the current findings highlight the relationship between child maltreatment and AUDs across the continuum of disorders (i.e., abuse and dependence), future research should explore whether a history of child maltreatment is uniquely associated with more severe AUDs among emerging adults, a population for whom drinking associated with consequences is not uncommon.

Further research using longitudinal samples of emerging adults with histories of child maltreatment are needed to determine the temporal relationship between maltreatment and AUDs. Although it is likely that the majority of emerging adults experienced child maltreatment before the onset of an AUD, alcohol use initiation may begin very early in adolescence, and a significant percentage of 12- to 17-year-olds have engaged in drinking (35.2%; SAMHSA, 2011). Thus, it is possible that the AUD diagnosis referenced in the study may have had an onset before child maltreatment events. Prospective studies provide greater certainty regarding the ordering of these relationships. Despite these limitations, given the significant link between child maltreatment and AUDs, there is a need for further research and development in trauma-focused AUD interventions. As the current findings provide some preliminary data suggesting that a history of maltreatment may influence decisions to enter treatment, qualitative research would contribute to an in-depth under-

standing of the conditions fostering or preventing access to treatment in this population. Finally, even when individuals use treatment services, a history of child maltreatment may influence the effectiveness of treatment, and further research is needed to better understand the unique treatment needs of this population.

Implications for policy and treatment

The findings of this study highlight the need to strengthen policies focused on decreasing the incidence of childhood maltreatment. From a clinical perspective, the findings also highlight the need to assess multiple forms of maltreatment, including emotional abuse and physical neglect. Finally, real and perceived barriers to treatment need to be addressed among those with maltreatment histories, including the availability of treatment resources and the kinds of support available.

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