BRIEF REPORT

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Diagnostic profiles and trauma history among treatmentseeking young adults with positive post-traumatic stress disorder screens: Findings and implications for public mental health care

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Abstract

Objectives: This study examined diagnostic profiles and trauma history among treatment-seeking young adults with positive PTSD screens in public mental health care. **Methods:** Screening for trauma history and PTSD symptoms was implemented in a community mental health service system. 266 treatment-seeking young adults (aged 18–35) endorsed trauma exposure with a score of at least 45 on the DSM-IV PTSD Checklist, indicating probable PTSD.

Results: Young adults with positive PTSD screens were predominantly female, minority, and diagnosed with mood disorders. Of those with positive screens, only 15% had a chart diagnosis of PTSD; 17.3% (ages 18–24) versus 14.1% (ages 25–35). Variables significantly associated with a decreased likelihood of PTSD detection included a diagnosis of schizophrenia or bipolar disorder, exposure to fewer types of traumatic events, male gender, and white race.

Conclusion: Routine PTSD screening for young adults receiving public mental health care should be prioritized to address long-term impacts of trauma.

KEYWORDS

bipolar disorder, community mental health care, major depression, posttraumatic stress disorder (PTSD), schizophrenia, trauma screening

1 | INTRODUCTION

Trauma exposure during early life-stages is common and uniquely affects the functioning of young adults. McLaughlin et al. (2013) found that 61% of US adolescents had experienced trauma. Early exposure to trauma increases risk for development of posttraumatic stress disorder (PTSD; El-Khoury et al., 2021). Young adults with

PTSD often experience increased risk of revictimization (Pittenger et al., 2019), delays in psychosocial development (Skehan & Davis, 2017), and emotion dysregulation (Villalta et al., 2018).

Providing PTSD screening can facilitate its identification and contribute to trauma-informed care which involves trauma-specific practices such as screening and interventions (Bendall et al., 2021). Public mental healthcare settings include local or state public health agencies

This is an open access article under the terms of the Creative Commons Attribution-NonCommercial-NoDerivs License, which permits use and distribution in any medium, provided the original work is properly cited, the use is non-commercial and no modifications or adaptations are made. © 2023 The Authors. *Early Intervention in Psychiatry* published by John Wiley & Sons Australia, Ltd. serving mostly persons with serious mental illness (SMI), such as schizophrenia/schizoaffective, bipolar, and major depressive disorder (MDD; Druss, 2020). PTSD screening is often not conducted in these settings (Cusack et al., 2013; Facer-Irwin et al., 2019), resulting in the under-diagnosis and under-treatment of PTSD in public adult mental health (Lu et al., 2013; Zammit et al., 2018). The few studies that have examined PTSD among youth in these settings supported a discrepancy between chart-documented and research-identified PTSD (Chemtob et al., 2016; Havens et al., 2012). Even though routine PTSD screening is clinically feasible and not associated with increased client distress (Skar et al., 2019), young adults receiving public mental health services rarely receive PTSD screening and treatment, although some states have taken initiatives to implement evidence-based trauma-focused practices for youth (Beidas et al., 2016; Hanson et al., 2019).

There is a need to understand clinical factors associated with positive PTSD screens in young adults to facilitate trauma-informed care. This study aimed to address this gap by examining the diagnostic and trauma history profiles, as well as the predictors of documented PTSD diagnosis in a sample of young adults with positive PTSD screens in the public mental health system. The study focused on young adults aged 18–35 based on prior definitions of young adults with psychiatric conditions (DeTore et al., 2021; Kane et al., 2016; Müller & VanGilder, 2014).

2 | METHOD

2.1 | Participants

Data for this report was collected from a study conducted between 2007 and 2010. Participants included young adults with mental health conditions, who were aged 18-35 at the time of data collection, receiving services from a statewide public mental health system primarily serving persons with SMI. Extended consent was implied, as participants did not specify an expiration date of the use of deidentified data collected. Study sites included five outpatient and partial hospitalization programs, which implemented a systemwide screening for trauma exposure and PTSD symptoms for a study evaluating PTSD treatment for clients with SMI (Mueser et al., 2015). Between 01/2007 and 11/2010, 2035 individuals were screened for PTSD using the Traumatic Life Events Questionnaire (TLEQ; Kubany et al., 2000) and PTSD Checklist (PCL; Weathers et al., 1993); 1107 endorsed at least one item on the TLEQ and had PCL scores ≥45 (Minsky et al., 2015). Parental consent was not needed nor was reporting of abuse mandatory as participants were over 18. Clients who were floridly psychotic or suicidal at the time of screening were deferred and assessed once they were clinically stable (Lu et al., 2013). Approximately 69.6% (805) with a positive PTSD screen consented to sharing their data with the research team, and 269 were young adults between ages 18-35; 3 were excluded due to missing diagnostic information. This consenting group had similar ethnic and diagnostic characteristics to those of the clients served by RUBHC. Data about current diagnosis at the time of screening and

demographic information were released in along with screening data. The final sample included 266 young adults. This study received approval from the Institutional Review Board, and participants were not compensated.

2.2 | Measures

Clinicians conducted PTSD screening, either at the second intake session for new clients or at regular sessions for existing clients, following a structured script (Lu et al., 2013). Clients completed self-report surveys independently with clinician help as needed. Clients first completed an abbreviated 16-item version of the Traumatic Life Events Questionnaire (TLEQ; Kubany et al., 2000) to screen for lifetime history of trauma, previously validated in the SMI population (Mueser et al., 2015). Each item of the TLEQ corresponds to the DSM-IV Criterion A for PTSD. Participants who indicated 'yes' to any of the TLEQ subsequently completed the 17-item PCL Civilian Version (Weathers et al., 1993) based on the most upsetting index event identified on the TLEQ.

2.3 | Analyses

We examined the demographic, diagnostic, and trauma history profiles using Chi-square or *t*-test analyses to determine group differences. For the sake of analyses, the sample was divided into two groups (age 18-24 and 25-35); following the federal definition of the USA, which defined transition-age youth with disabilities as individuals with a disability age 14-24 [section 7(42) of the Act and §361.5 (c)(58)]. Logistic regression was used to identify which demographic and trauma variables were most strongly associated with having a chart-documented PTSD diagnosis.

3 | RESULTS

Young adults with positive PTSD screens were predominantly female (68.0%), in their late 20s, had completed high school, and were racially/ethnically diverse (see Table 1). The most common primary diagnosis among positive screens was Bipolar disorders (Bipolar I, II, NOS; 25.2%), followed by MDD (24.4%), schizophrenia/ schizoaffective (15.0%), and Mood disorder NOS (10.2%). 15.1% of young adults with positive PTSD screens on the PCL had a documented diagnosis of PTSD (5.3% as a primary diagnosis, and 9.8% as a secondary diagnosis). For transition age youth ages 18-24, the detection rate of PTSD was 17.3% and for older young adults age 25-35, it was 14.1% (Table 1). Both groups did not differ regarding education, types of most distressing symptoms, total types of trauma exposure, or PTSD symptoms. The most commonly reported traumatic events were sudden death of a loved one, domestic violence, witnessing domestic violence, and childhood sexual abuse. Females and males reported experiencing a similar number of traumatic events (approximately seven types) and females had higher PCL scores than males (Table 2). The transition age youth (18-24) had a similar gender, ethnic, and

TABLE 1 Demographics and clinical diagnostic patterns of treatment-seeking young adults with positive PTSD screens.

| | Age 18-3 | 5 (n = 266) | Age 18- | 24 (n = 75) | Age 25-3 | 85 (n = 191) | | |
|--|----------|-------------|---------|-------------|----------|--------------|----------------|-----|
| Demographic/clinical characteristics | n | % | n | % | n | % | χ ² | р |
| Gender | | | | | | | 2.16 | .14 |
| Male | 85 | 32 | 29 | 38.7 | 56 | 29.3 | | |
| Female | 181 | 68 | 46 | 61.3 | 135 | 70.7 | | |
| Race/ethnicity | | | | | | | 3.87 | .57 |
| African American | 114 | 42.9 | 31 | 41.3 | 83 | 43.5 | | |
| White | 82 | 30.8 | 26 | 34.7 | 56 | 29.3 | | |
| Hispanic | 45 | 16.9 | 12 | 16 | 33 | 17.3 | | |
| American Indian | 1 | 0.4 | 1 | 1.3 | 0 | 0 | | |
| Asian | 6 | 2.3 | 1 | 1.3 | 5 | 2.6 | | |
| Other | 18 | 6.8 | 4 | 5.3 | 14 | 7.3 | | |
| Psychiatric diagnoses (primary) | | | | | | | 10.57 | .57 |
| Major depression ^a | 65 | 24.4 | 20 | 26.7 | 45 | 23.6 | | |
| Schizophrenia/schizoaffective ^a | 40 | 15 | 11 | 14.7 | 29 | 15.2 | | |
| Bipolar I ^a | 40 | 15 | 8 | 10.7 | 32 | 16.8 | | |
| Bipolar II ^a | 14 | 5.3 | 4 | 5.3 | 10 | 5.2 | | |
| Bipolar NOS | 13 | 4.9 | 6 | 8 | 7 | 3.7 | | |
| Mood disorder NOS | 27 | 10.2 | 5 | 6.7 | 22 | 11.5 | | |
| Other depressive disorder | 16 | 6.1 | 3 | 4 | 13 | 6.7 | | |
| PTSD | 14 | 5.3 | 6 | 8 | 8 | 4.2 | | |
| Psychotic disorder | 9 | 3.4 | 2 | 2.7 | 7 | 3.7 | | |
| Anxiety disorders | 9 | 3.4 | 2 | 2.7 | 7 | 3.6 | | |
| Personality disorder | 4 | 1.5 | 1 | 1.3 | 3 | 1.6 | | |
| Substance use | 2 | 0.8 | 1 | 1.3 | 1 | 0.5 | | |
| Other | 13 | 5.2 | 6 | 7.8 | 7 | 3.5 | | |
| PTSD as secondary diagnosis | 26 | 9.8 | 7 | 9.3 | 19 | 9.9 | 0.02 | .88 |
| | М | SD | М | D | М | SD | t | р |
| Education | 12.09 | 1.96 | 11.89 | 1.7 | 12.17 | 2.05 | -1.04 | .3 |
| Age | 27.99 | 4.63 | 22.2 | 1.77 | 30.27 | 3.2 | -20.63 | |
| PCL total | 62.67 | 10.45 | 30.27 | 3.2 | 62.93 | 10.69 | -0.65 | .51 |
| TLEQ total | 7.17 | 3.45 | 6.71 | 3.25 | 7.35 | 3.52 | -1.37 | .17 |

Note: Mood disorders NOS. Other depressive disorder includes depressive disorder NOS, dysthymic disorder, depressive disorder due to medical condition. Anxiety disorders includes anxiety NOS, GAD, panic disorder. Other includes eating disorder, dissociative disorder NOS, Rett's disorder, acute stress disorder, adjustment disorder with depressed mood, adjustment disorder with mixed anxiety and depressed mood, impulse-control disorder NOS, and attention deficit hyperactivity disorder-combined type.

Abbreviations: PCL, PTSD Checklist for DSM-IV; TLEQ, Traumatic Life Events Questionnaire. ^aDisorders traditionally associated with serious mental illness.

diagnostic distribution as that of the older group (25–35). The older age group experienced more domestic violence, more sudden deathrelated losses, and less stranger assault than the younger group, but did not differ in other types of trauma exposure. Childhood sexual abuse by older people was reported as the most common index trauma by both undocumented and documented PTSD cases (24.3% vs. 31%), followed by sudden death of a loved one (20.6% vs. 17.1%). On average, the index trauma reportedly occurred approximately 13 years prior to the screening, with an average age of 15 at its occurrence (mean = 13.20, SD = 8.42), without a difference between undetected and detected cases (Table 3). For older groups, 14 years had passed since the index trauma, whereas 10 years had passed for the younger group. The average age when index trauma occurred was 16 for the older group and 13 for the younger group.

The documentation rate of a charted PTSD diagnosis varied by other diagnosis, with a rate of 4.1% for schizophrenia/schizoaffective, 6.3% for bipolar disorders, and 18.8% for MDD. Documentation rates of PTSD differed among different race-gender groups, with the lowest being white males (0%) and the highest being African American females (22%, see Figure 1). Logistic regression identified unique

| auma history among treatment-seeking young adults with positive PTSD screens in a community mental health care system. | |
|--|--|
| TABLE 2 T | |

| | Total (n = 266) | = 266) | Female (<i>n</i> = 181) | Male (n = 85) | | | Age 18-24 (n = 75) | Age 25-35 (n = 191) | | | Undetected PTSD (n = 226) | Detected PTSD (n = 40) | | |
|--|-----------------|---------------------|-----------------------------|------------------|-----------------------|-----|--------------------------|---------------------------|----------------|-----|---------------------------------|------------------------------|----------------|-----|
| | z | 8 | % | 8 | X ² | ٩ | % | % | X ² | d | % | % | X ² | d |
| Childhood trauma | | | | | | | | | | | | | | |
| CPA | 120 | 45.3 | 42.8 | 50.6 | 1.42 | .23 | 44 | 45.8 | 0.07 | .79 | 42.2 | 62.5 | 5.64 | .02 |
| Child sexual abuse | | | | | | | | | | | | | | |
| by older person | 139 | 52.7 | 61.1 | 34.5 | 16.24 | 00. | 54.1 | 52.1 | 0.08 | .78 | 50 | 67.5 | 4.17 | .04 |
| by peer | 105 | 39.8 | 48.9 | 20.2 | 19.63 | 00. | 39.2 | 40.0 | 0.02 | .90 | 37.1 | 55 | 4.56 | .03 |
| Witnessing DV | 167 | 63.3 | 70.4 | 48.2 | 12.17 | 00. | 56 | 66.1 | 2.37 | .12 | 60.3 | 80.0 | 5.69 | .02 |
| Other types of trauma | | | | | | | | | | | | | | |
| Car accident | 63 | 35.0 | 36.5 | 31.8 | 0.56 | .45 | 26.7 | 38.2 | 3.16 | .08 | 35.8 | 30.0 | 0.51 | .48 |
| Other accident | 74 | 27.8 | 24.3 | 35.3 | 3.48 | .06 | 29.3 | 27.2 | 0.12 | .73 | 26.1 | 37.5 | 2.20 | .14 |
| Warfare | 20 | 7.5 | 5.6 | 11.8 | 3.19 | .07 | 4 | 8.9 | 1.89 | .17 | 7.1 | 10 | 0.41 | .52 |
| Sudden death | 191 | 72.6 | 73.0 | 71.8 | 0.05 | .83 | 63.5 | 76.2 | 4.30 | .04 | 72.8 | 71.8 | 0.02 | 6. |
| Robbery | 96 | 36.2 | 30.0 | 49.4 | 9.42 | O. | 33.3 | 37.4 | 0.38 | .54 | 32.4 | 57.5 | 9.23 | 0. |
| Stranger assault | 121 | 45.8 | 37.8 | 63.1 | 14.79 | O. | 58.7 | 40.7 | 6.95 | .01 | 43.1 | 61.5 | 4.55 | .03 |
| Witness stranger violence | 129 | 48.7 | 46.7 | 52.9 | 0.91 | .34 | 47.3 | 49.2 | 0.08 | .78 | 44.9 | 70.0 | 8.57 | O. |
| Being threatened | 162 | 61.1 | 58.3 | 67.1 | 1.85 ^a | .17 | 68.9 | 58.1 | 2.62 | .11 | 58 | 79.5 | 6.48 | .01 |
| Experiencing DV | 166 | 62.4 | 70.7 | 44.7 | 16.68 | 00. | 44 | 69.69 | 15.08 | 00. | 61.5 | 67.5 | 0.52 | .47 |
| ASA | 87 | 33.0 | 43.1 | 10.8 | 26.79 | 00. | 25.7 | 35.8 | 2.47 | .17 | 30.7 | 46.2 | 3.61 | .06 |
| Being stalked | 120 | 45.3 | 53.9 | 27.1 | 16.77 | 00. | 40.0 | 47.4 | 1.18 | .28 | 42.2 | 62.5 | 5.64 | .02 |
| Other | 117 | 44.3 | 42.5 | 48.2 | 0.78 | .38 | 40.5 | 45.8 | 0.60 | .44 | 44.0 | 46.2 | 0.06 | .80 |
| PTSD primary or secondary | ı | | 19.3 | 5.9 | 8.2 | 00. | | | | | , | | ı | |
| | | M ± SD | M ± SD | M ± SD | Ŀ | d | M ± SD | M ± SD | ц | d | M ± SD | M ± SD | Ŀ | d |
| PCL total | ı | 62.67 ± 10.45 | 63.60 ± 10.25 | 60.68 ± 10.65 | 4.58 | .03 | 62.00 ± 9.86 | 62.93 ± 1.69 | 0.43 | .51 | 62.06 ± 10.46 | 66.13 ± 9.83 | 5.23 | .02 |
| Intrusion | ı | 18.55 ± 4.26 | 18.90 ± 4.04 | 17.82 ± 4.63 | 3.69 | 90. | 18.51 ± 3.83 | 18.57 ± 4.43 | 0.01 | .91 | 18.20 ± 4.26 | 20.53 ± 3.74 | 10.45 | 0. |
| Avoidance | ı | 25.28 ± 5.16 | 25.46 ± 5.08 | 24.89 ± 5.32 | 69. | .41 | 25.29 ± 4.85 | 25.27 ± 5.28 | 0.00 | .98 | 25.19 ± 5.19 | 25.78 ± 4.96 | 0.44 | .51 |
| Hyperarousal | ı | 18.84 ± 3.92 | 19.25 ± 3.83 | 17.96 ± 4.00 | 6.31 | .01 | 18.20 ± 3.96 | 19.09 ± 3.89 | 2.78 | .1 | 18.66 ± 3.96 | 19.83 ± 3.61 | 3.00 | .09 |
| Note: Trauma history was assessed using the Traumatic Life Events Questionnaire (TLEQ) | sessed us. | ing the Traumatic I | Life Events Questio | onnaire (TLEQ). | | | | | | | | | | |

Note: Trauma history was assessed using the Traumatic Life Events Questionnaire (TLEQ) ^aDisorders traditionally associated with serious mental illness.

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| | Total | ÷ | Female | Male | | | Age 18-24 | Age 25-35 | | | Undetected PTSD | Detected PTSD | | |
|--|----------------|---------------------------------------|-----------------------------------|--------------------------------|--------------------|-------------|--------------------|------------------|----------------|-----|--------------------|------------------|----------------|-----|
| | (N = 224) : | (24) | (n = 154) | (n = 70) | c | | (n = 58) | (n = 166) | c | | (n = 189) | (n = 35) | ç | |
| | z | % | % | % | X ² | d | % | % | X [*] | d | % | % | X ^z | d |
| | | | | | 25.59 ^a | .03 | | | 14.32 | .43 | | | 8.01 | .89 |
| CSA by older person | 57 | 25.4 | 27.3 | 21.4 | | | 27.6 | 24.7 | | | 24.3 | 31.4 | | |
| Sudden death | 45 | 20.1 | 22.7 | 14.3 | | | 19.0 | 20.5 | | | 20.6 | 17.1 | | |
| Other | 4 | 19.6 | 18.2 | 22.9 | | | 19.0 | 19.9 | | | 21.2 | 11.4 | | |
| Experiencing DV | 14 | 6.3 | 6.5 | 5.7 | | | 1.7 | 7.8 | | | 6.3 | 5.7 | | |
| Multiple trauma | 13 | 5.8 | 7.8 | 1.4 | | | 1.7 | 7.2 | | | 4.8 | 11.4 | | |
| CPA | 11 | 4.9 | 3.2 | 8.6 | | | 6.9 | 4.2 | | | 4.8 | 5.7 | | |
| Stranger assault | 10 | 4.5 | 2.6 | 8.6 | | | 5.2 | 4.2 | | | 4.2 | 5.7 | | |
| Witness stranger violence | œ | 3.6 | 1.9 | 7.1 | | | 3.4 | 3.6 | | | 3.7 | 2.9 | | |
| CSA by peer | 9 | 2.7 | 3.2 | 1.4 | | | 5.2 | 1.8 | | | 2.6 | 2.9 | | |
| ASA | 9 | 2.7 | 3.2 | 1.4 | | | 3.4 | 2.4 | | | 2.6 | 2.9 | | |
| Robbery | ო | 1.3 | 0.6 | 2.9 | | | 3.4 | 0.6 | | | 1.6 | 0.0 | | |
| Witnessing DV as a child | с | 1.3 | 1.9 | 0.0 | | | 3.4 | 0.6 | | | 1.6 | 0.0 | | |
| Being threatened | 2 | 0.9 | 0.6 | 1.4 | | | 0.0 | 1.2 | | | 0.5 | 2.9 | | |
| Car accident | 1 | 0.4 | 0.0 | 1.4 | | | 0.0 | 0.6 | | | 0.5 | 0.0 | | |
| Warfare | 4 | 0.4 | 0.0 | 1.4 | | | 0.0 | 0.6 | | | 0.5 | 0.0 | | |
| Other accident | 0 | 0.0 | 0.0 | 0.0 | | | 0.0 | 0.0 | | | 0.0 | 0.0 | | |
| Being stalked | 0 | 0.0 | 0.0 | 0.0 | | | 0.0 | 0.0 | | | 0.0 | 0.0 | | |
| | | M ± SD | M ± SD | M ± SD | Ŧ | d | M ± SD | M ± SD | н | þ | M ± SD | M ± SD | Ŀ | d |
| Total types of events | ı | 7.17 ± 3.45 | 7.41 ± 3.52 | 6.66 ± 3.26 | 2.75 | .10 | 6.71 ± 3.25 | 7.35 ± 3.52 | 1.88 | .17 | 6.85 ± 3.36 | 8.98 ± 3.45 | 13.5 | 00. |
| Time since index trauma | ī | 13.2 ± 8.42 | 13.42 ± 8.33 | 12.69 ± 8.68 | 0.29 | .59 | 9.50 ± 6.37 | 14.49 ± 8.68 | 13.64 | 00. | 13.04 ± 8.47 | 14.03 ± 8.26 | 0.35 | .55 |
| Age at index trauma | | 15.13 ± 8.17 | 14.99 ± 7.85 | 15.47 ± 8.95 | 0.14 | .71 | 12.73 ± 6.41 | 15.97 ± 8.56 | 5.87 | .02 | 15.36 ± 8.33 | 13.96 ± 7.28 | 0.76 | .39 |
| <i>Note:</i> Analysis excluded people who did not indicate which event was most distressing, resulting in 224 valid cases and 42 missing. ^a Disorders traditionally associated with serious mental illness. | ple who | did not indicate vith serious ment | e which event was tal illness. | s most distressin _§ | g, resultinε | 3 in 224 va | lid cases and 42 n | nissing. | | | | | | |

TABLE 3 Most distressing events reported on PCL by gender, age group, and PTSD diagnosis among treatment-seeking young adults with positive PTSD screens.

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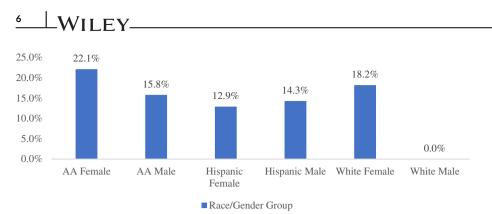


FIGURE 1 Documentation rate of PTSD among young adults with positive PTSD screens across race/gender groups ($\chi^2 = 10.394, p = .07$).

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TABLE 4 Predictors of PTSD diagnosis in medical chart among treatment-seeking young adults with positive PTSD screens.

| | | | | | | | 95% CI for | Exp(B) |
|------------------------------|-------|------|-------|------|------|--------|------------|--------|
| | В | SE | Wald | df | Sig. | Exp(B) | Lower | Upper |
| Female | 1.37 | .54 | 6.35 | 1.00 | .01 | 3.92 | 1.35 | 11.35 |
| Non-White minority | 0.38 | .46 | 0.68 | 1.00 | .41 | 1.46 | 0.59 | 3.60 |
| Index trauma CSA | -0.02 | .47 | 0.00 | 1.00 | .97 | 0.98 | 0.40 | 2.45 |
| ≥15 years since index trauma | 0.50 | .46 | 1.14 | 1.00 | .29 | 1.64 | 0.66 | 4.07 |
| Education 12 years or more | -0.64 | .42 | 2.37 | 1.00 | .12 | 0.53 | 0.23 | 1.19 |
| Age 25+ | -0.56 | .46 | 1.50 | 1.00 | .22 | 0.57 | 0.23 | 1.40 |
| Schizophrenia diagnosis | -2.64 | 1.05 | 6.26 | 1.00 | .01 | 0.07 | 0.01 | .57 |
| Bipolar diagnosis | -1.63 | .58 | 7.95 | 1.00 | .01 | 0.20 | 0.06 | .61 |
| PCL ≥ 65 | 0.51 | .40 | 1.65 | 1.00 | .20 | 1.67 | 0.76 | 3.64 |
| TLEQ ≥ 8 | 0.63 | .41 | 2.36 | 1.00 | .12 | 1.87 | 0.84 | 4.17 |
| Constant | -2.47 | .76 | 10.68 | 1.00 | .00 | 0.09 | | |

Note: Nagelkerke $R^2 = .24$; Chi-square = 38.48; p = .00; df = 10; regression used list-wise deletion for missing data, resulting in 257 valid cases.

predictors of having a documented PTSD chart diagnosis either as primary or secondary (Table 4). Variables significantly associated with a decreased likelihood of PTSD documentation were having a schizophrenia/schizoaffective disorder and a bipolar diagnosis, whereas TLEQ total score greater than 8, female gender, and race other than white, were significantly associated with a greater likelihood of PTSD documentation.

4 | DISCUSSION

Findings from the present study extend previous research on underdiagnosis of PTSD in public mental health sectors (Gelkopf et al., 2013; Gottlieb et al., 2018) to the young adult population. Findings are also consistent with Lu et al. (2022) and Zammit et al. (2018) in that having psychotic disorders are predictive of undocumented PTSD. A new finding was that a diagnosis of bipolar disorder was also associated with undetected PTSD in young adults. Additionally, increased trauma exposure, female gender, and race other than white, were all significantly associated with an increased likelihood of PTSD detection. PTSD was especially likely to be overlooked among young adults with psychotic/bipolar disorders and white males. Moreover, findings indicated that on average, young adults reported that 13 years had elapsed since their index trauma, underscoring the importance of routine PTSD screening to facilitate early treatment (Ruggiero et al., 2004).

More than half of the sample was diagnosed with a likely SMI (64.6%). This is consistent with earlier findings that PTSD has high rates of co-occurrence among persons with SMI (Grubaugh et al., 2021). There were also 25% on the bipolar spectrum in this group. Patients with co-occurring bipolar disorders and PTSD experience greater symptom severity, substance use, psychotic features and suicidality (Aldinger & Schulze, 2017; Carmassi et al., 2020; Hernandez et al., 2013), so future research on co-occurring bipolar disorder and PTSD in young adults is needed (Cerimele et al., 2017). Findings further demonstrated that nearly 25% of young adults with positive PTSD screens were diagnosed with MDD. MDD and PTSD commonly co-occur (Rojas et al., 2014) and are associated with more impairment, greater distress, and poorer prognosis (Stander et al., 2014; Yehuda et al., 2015). This argues for the importance of treating both disorders in young adults in an integrated fashion (Flory & Yehuda, 2022).

This study had several limitations. The results may not represent current conditions in the public mental health system, nor be generalizable to young adults in other treatment settings, or to those not receiving treatment. The use of the PCL, rather than the more current PCL-5 (Weathers et al., 2013), may further limit the generalizability. Moreover, the current sample included young adults 18–35, which extends beyond the age range 18–25 typically used to define young adults.

This study highlights the need for PTSD screening among young adults receiving public mental health services. PTSD screening is quick, effective, and well-tolerated in youth mental health clinics (Skar et al., 2019), facilitating broad use among young adults with various clinical and demographic profiles. This can address the race-gender and diagnostic group disparities in PTSD detection. It is essential to develop and implement guidelines for detecting and treating early signs of PTSD in public mental health clinics (McCance-Katz et al., 2017). Evidence-based treatments for PTSD have been found to be effective for young people (Foa et al., 2013), as have PTSD interventions developed specifically for individuals with SMI (Mueser et al., 2015). Taken together, findings support the need for screening and documentation of PTSD in young adults receiving public mental health services to facilitate the early provision of evidence-based trauma-informed care.

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DATA AVAILABILITY STATEMENT

Research data are not shared.

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REFERENCES

- Aldinger, F., & Schulze, T. G. (2017). Environmental factors, life events, and trauma in the course of bipolar disorder. *Psychiatry and Clinical Neuro*sciences, 71(1), 6–17. https://doi.org/10.1111/pcn.12433
- Beidas, R. S., Adams, D. R., Kratz, H. E., Jackson, K., Berkowitz, S., Zinny, A., Cliggitt, L. P., DeWitt, K. L., Skriner, L., & Evans, A., Jr. (2016). Lessons learned while building a trauma-informed public behavioral health system in the City of Philadelphia. *Evaluation and Program Planning*, *59*, 21–32. https://doi.org/10.1016/j.evalprogplan. 2016.07.004
- Bendall, S., Eastwood, O., Cox, G., Farrelly-Rosch, A., Nicoll, H., Peters, W., Bailey, A. P., McGorry, P. D., & Scanlan, F. (2021). A systematic review and synthesis of trauma-informed care within outpatient and counseling health settings for young people. *Child Maltreatment*, *26*(3), 313– 324. https://doi.org/10.1177/1077559520927468
- Carmassi, C., Bertelloni, C. A., Dell'Oste, V., Foghi, C., Diadema, E., Cordone, A., Pedrinelli, V., & Dell'Osso, L. (2020). Post-traumatic stress burden in a sample of hospitalized patients with bipolar disorder: Which impact on clinical correlates and suicidal risk? *Journal of Affective Disorders*, 262, 267–272. https://doi.org/10.1016/j.jad.2019. 10.044
- Cerimele, J. M., Bauer, A. M., Fortney, J. C., & Bauer, M. S. (2017). Patients with co-occurring bipolar disorder and posttraumatic stress disorder: A rapid review of the literature. *The Journal of Clinical Psychiatry*, 78(5), 3747. https://doi.org/10.4088/JCP.16r10897
- Chemtob, C. M., Gudiño, O. G., Luthra, R., Yehuda, R., Schmeidler, J., Auslander, B., Hirshbein, H., Schoor, A., Greenberg, R., Newcorn, J.,

Panzer, P. G., Schenk, T., Levine, P., & Abramovitz, R. (2016). Child trauma exposure and posttraumatic stress disorder: Identification in community mental health clinics. *Evidence-Based Practice in Child and Adolescent Mental Health*, 1(2–3), 103–115. https://doi.org/10.1080/23794925.2016.1227949

- Cusack, K. J., Herring, A. H., & Steadman, H. J. (2013). PTSD as a mediator between lifetime sexual abuse and substance use among jail diversion participants. *Psychiatric Services*, 64(8), 776–781. https://doi.org/10. 1176/appi.ps.000052012
- DeTore, N. R., Gottlieb, J. D., & Mueser, K. T. (2021). Prevalence and correlates of PTSD in first episode psychosis: Findings from the RAISE-ETP study. *Psychological Services*, 18(2), 147–153. https://doi.org/10. 1037/ser0000380
- Druss, B. G. (2020). Addressing the COVID-19 pandemic in populations with serious mental illness. JAMA Psychiatry, 77(9), 891–892. https:// doi.org/10.1001/jamapsychiatry.2020.0894
- El-Khoury, F., Rieckmann, A., Bengtsson, J., Melchior, M., & Rod, N. H. (2021). Childhood adversity trajectories and PTSD in young adulthood: A nationwide Danish register-based cohort study of more than one million individuals. *Journal of Psychiatric Research*, 136, 274–280. https://doi.org/10.1016/j.jpsychires.2021.02.034
- Facer-Irwin, E., Blackwood, N. J., Bird, A., Dickson, H., McGlade, D., Alves-Costa, F., & MacManus, D. (2019). PTSD in prison settings: A systematic review and meta-analysis of comorbid mental disorders and problematic behaviours. *PLoS One*, 14(9), e0222407. https://doi. org/10.1371/journal.pone.0222407
- Flory, J. D., & Yehuda, R. (2022). Comorbidity between post-traumatic stress disorder and major depressive disorder: Alternative explanations and treatment considerations. *Dialogues in Clinical Neuroscience*, 17(2), 141–150. https://doi.org/10.31887/DCNS.2015.17.2/jflory
- Foa, E. B., Gillihan, S. J., & Bryant, R. A. (2013). Challenges and successes in dissemination of evidence-based treatments for posttraumatic stress: Lessons learned from prolonged exposure therapy for PTSD. *Psychological Science in the Public Interest*, 14(2), 65–111. https://doi. org/10.1177/1529100612468841
- Gelkopf, M., Roe, D., Werbeloff, N., Hasson-Ohayon, I., Mueser, K. T., Caspi, A., & Weiser, M. (2013). The prevalence of full and partial posttraumatic stress disorder among people with severe mental illness in Israel. *The Journal of Nervous and Mental Disease*, 201(3), 244–250. https://doi.org/10.1097/NMD.0b013e3182848d1e
- Gottlieb, J. D., Poyato, N., Valiente, C., Perdigón, A., & Vázquez, C. (2018). Trauma and posttraumatic stress disorder in Spanish public mental health system clients with severe psychiatric conditions: Clinical and demographic correlates. *Psychiatric Rehabilitation Journal*, 41(3), 234– 242. https://doi.org/10.1037/prj0000318
- Grubaugh, A. L., Brown, W. J., Wojtalik, J. A., Myers, U. S., & Eack, S. M. (2021). Meta-analysis of the treatment of posttraumatic stress disorder in adults with comorbid severe mental illness. *The Journal of Clinical Psychiatry*, 82(3), 33795. https://doi.org/10.4088/JCP.20r13584
- Hanson, R. F., Saunders, B. E., Ralston, E., Moreland, A. D., Peer, S. O., & Fitzgerald, M. M. (2019). Statewide implementation of child traumafocused practices using the community-based learning collaborative model. *Psychological Services*, 16(1), 170–181. https://doi.org/10. 1037/ser0000319
- Havens, J. F., Gudino, O. G., Biggs, E. A., Diamond, U. N., Weis, J. R., & Cloitre, M. (2012). Identification of trauma exposure and PTSD in adolescent psychiatric inpatients: An exploratory study. *Journal of Traumatic Stress*, 25(2), 171–178. https://doi.org/10.1002/jts.21683
- Hernandez, J. M., Cordova, M. J., Ruzek, J., Reiser, R., Gwizdowski, I. S., Suppes, T., & Ostacher, M. J. (2013). Presentation and prevalence of PTSD in a bipolar disorder population: A STEP-BD examination. *Journal of Affective Disorders*, 150(2), 450–455. https://doi.org/10.1016/j. jad.2013.04.038
- Kane, J. M., Robinson, D. G., Schooler, N. R., Mueser, K. T., Penn, D. L., Rosenheck, R. A., Addington, J., Brunette, M. F., Correll, C. U.,

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Estroff, S. E., Marcy, P., Robinson, J., Meyer-Kalos, P. S., Gottlieb, J. D., Glynn, S. M., Lynde, D. W., Pipes, R., Kurian, B. T., Miller, A. L., ... Heinssen, R. K. (2016). Comprehensive versus usual community care for first-episode psychosis: 2-year outcomes from the NIMH RAISE early treatment program. *American Journal of Psychiatry*, 173(4), 362–372. https://doi.org/10.1176/appi.ajp.2015.15050632

- Kubany, E. S., Leisen, M. B., Kaplan, A. S., Watson, S. B., Haynes, S. N., Owens, J. A., & Burns, K. (2000). Development and preliminary validation of a brief broad-spectrum measure of trauma exposure: The traumatic life events questionnaire. *Psychological Assessment*, 12(2), 210– 224. https://doi.org/10.1037/1040-3590.12.2.210
- Lu, W., Srijeyanthan, J., Mueser, K. T., Yanos, P. T., Parrott, J. S., Siriram, A., Gottlieb, J. D., Marcello, S., & Silverstein, S. M. (2022). Predictors of undocumented PTSD in persons using public mental health services. *Psychiatry Research*, 317, 114892. https://doi.org/10.1016/j.psychres. 2022.114892
- Lu, W., Yanos, P. T., Silverstein, S. M., Mueser, K. T., Rosenberg, S. D., Gottlieb, J. D., Duva, S. M., Kularatne, T., Dove-Williams, S., Paterno, D., Hawthorne, D., & Giacobbe, G. (2013). Public mental health clients with severe mental illness and probable posttraumatic stress disorder: Trauma exposure and correlates of symptom severity. *Journal of Traumatic Stress*, 26(2), 266–273. https://doi.org/10.1002/ jts.21791
- McCance-Katz, E. F., Hargan, E. D., & Carson, B. (2017). Interdepartmental serious mental illness coordinating committee (ISMICC). In 2017 Report to congress: "The way forward: Federal action for a system that works for all people living with serious mental illness (SMI) and serious emotional disturbance (SME) and their families and caregivers". US Department of Health and Human Services (DHHS).
- McLaughlin, K. A., Koenen, K. C., Hill, E. D., Petukhova, M., Sampson, N. A., Zaslavsky, A. M., & Kessler, R. C. (2013). Trauma exposure and posttraumatic stress disorder in a national sample of adolescents. *Journal of the American Academy of Child and Adolescent Psychiatry*, 52(8), 815–830. e14. https://doi.org/10.1016/j.jaac.2013.05.011
- Minsky, S. K., Lu, W., Silverstein, S. M., Gara, M., Gottlieb, J. D., & Mueser, K. T. (2015). Service use and self-reported symptoms among persons with positive PTSD screens and serious mental illness. *Psychiatric Services*, 66(8), 845–850. https://doi.org/10.1176/appi.ps. 201400192
- Mueser, K. T., Penn, D. L., Addington, J., Brunette, M. F., Gingerich, S., Glynn, S. M., Lynde, D. W., Gottlieb, J. D., Meyer-Kalos, P., McGurk, S. R., Cather, C., Saade, S., Robinson, D. G., Schooler, N. R., Rosenheck, R. A., & Kane, J. M. (2015). The NAVIGATE program for first-episode psychosis: Rationale, overview, and description of psychosocial components. *Psychiatric Services*, *66*(7), 680–690. https:// doi.org/10.1176/appi.ps.201400413
- Müller, E., & VanGilder, R. (2014). The relationship between participation in project SEARCH and job readiness and employment for young adults with disabilities. *Journal of Vocational Rehabilitation*, 40(1), 15– 26. https://doi.org/10.3233/JVR-130660
- Pittenger, S. L., Schreier, A., Meidlinger, K., Pogue, J. K., Theimer, K., Flood, M. F., & Hansen, D. J. (2019). Psychological distress and revictimization risk in youth victims of sexual abuse. *Journal of Interpersonal Violence*, 34(9), 1930–1960. https://doi.org/10.1177/0886260516658755
- Rojas, S. M., Bujarski, S., Babson, K. A., Dutton, C. E., & Feldner, M. T. (2014). Understanding PTSD comorbidity and suicidal behavior:

Associations among histories of alcohol dependence, major depressive disorder, and suicidal ideation and attempts. *Journal of Anxiety Disorders*, 28(3), 318–325. https://doi.org/10.1016/j.janxdis.2014.02.004

- Ruggiero, K. J., Smith, D. W., Hanson, R. F., Resnick, H. S., Saunders, B. E., Kilpatrick, D. G., & Best, C. L. (2004). Is disclosure of childhood rape associated with mental health outcome? Results from the national women's study. *Child Maltreatment*, 9(1), 62–77. https://doi.org/10. 1177/1077559503260309
- Skar, A.-M., Ormhaug, S. M., & Jensen, T. K. (2019). Reported levels of upset in youth after routine trauma screening at mental health clinics. JAMA Network Open, 2(5), e194003. https://doi.org/10.1001/ jamanetworkopen.2019.4003
- Skehan, B., & Davis, M. (2017). Aligning mental health treatments with the developmental stage and needs of late adolescents and young adults. *Child and Adolescent Psychiatric Clinics*, 26(2), 177–190. https://doi. org/10.1016/j.chc.2016.12.003
- Stander, V. A., Thomsen, C. J., & Highfill-McRoy, R. M. (2014). Etiology of depression comorbidity in combat-related PTSD: A review of the literature. *Clinical Psychology Review*, 34(2), 87–98. https://doi.org/10. 1016/j.cpr.2013.12.002
- Villalta, L., Smith, P., Hickin, N., & Stringaris, A. (2018). Emotion regulation difficulties in traumatized youth: A meta-analysis and conceptual review. European Child & Adolescent Psychiatry, 27, 527–544. https:// doi.org/10.1007/s00787-018-1105-4
- Weathers, F., Litz, B., Herman, D., Huska, J., & Keane, T. (1993). The PTSD checklist (PCL): Reliability, validity, and diagnostic utility. Paper presented at the annual convention of the International Society for Traumatic Stress Studies, San Antonio, TX.
- Weathers, F. W., Litz, B. T., Keane, T. M., Palmieri, P. A., Marx, B. P., & Schnurr, P. P. (2013). The PTSD checklist for DSM-5 (PCL-5)–Standard. https://www.ptsd.va.gov/
- Yehuda, R., Flory, J. D., Bierer, L. M., Henn-Haase, C., Lehrner, A., Desarnaud, F., Makotkine, I., Daskalakis, N. P., Marmar, C. R., & Meaney, M. J. (2015). Lower methylation of glucocorticoid receptor gene promoter 1F in peripheral blood of veterans with posttraumatic stress disorder. *Biological Psychiatry*, 77(4), 356–364. https://doi.org/ 10.1016/j.biopsych.2014.02.006
- Zammit, S., Lewis, C., Dawson, S., Colley, H., McCann, H., Piekarski, A., Rockliff, H., & Bisson, J. (2018). Undetected post-traumatic stress disorder in secondary-care mental health services: Systematic review. *The British Journal of Psychiatry: The Journal of Mental Science*, 212(1), 11–18. https://doi.org/10.1192/bjp.2017.8

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