Mental Health Outcomes Among Homeless, Runaway, and Stably Housed Youth

Janna R. Gewirtz O'Brien, MD,[a] Laurel D. Edinburgh, MSN, APRN,[b] Andrew J. Barnes, MD,[a] Annie-Laurie McRee, DrPH[a]

abstract

BACKGROUND AND OBJECTIVES: Runaway youth and homeless youth are at risk for adverse mental health outcomes. These 2 populations are frequently pooled together in both research and interventions yet may have unique health needs. We sought to assess differences in mental health outcomes among these populations.

METHODS: We conducted a secondary data analysis of ninth- and 11th-graders in the 2016 minnesota Student Survey (n = 68 785). We categorized youth into 4 subgroups based on housing status in the previous year: (1) unaccompanied homeless youth (0.5%), (2) runaway youth (4%), (3) youth who had both run away and been homeless (0.6%), and (4) stably housed youth (95%). We performed multivariable logistic regression to compare 4 mental health outcomes (self-injury, suicidal ideation, suicide attempts, and depressive symptoms) across groups, controlling for demographics and abuse history.

RESULTS: Unstably housed youth had poorer mental health outcomes when compared with their stably housed peers ($P < .05$). For example, 11% of homeless youth, 20% of runaways, and 33% of youth who had experienced both had attempted suicide in the previous year compared with 2% of stably housed youth (adjusted odds ratios 2.4, 4.9, and 7.1, respectively). Other outcomes showed a similar pattern.

CONCLUSIONS: Our findings suggest that runaway and homeless youth represent unique populations with high levels of mental health needs who would benefit from targeted clinical and community interventions. Pediatric clinicians represent one potential point of screening and intervention.

[a]*Department of Pediatrics, University of Minnesota, Minneapolis, Minnesota; and* [b]*Midwest Children's Resource Center, Children's Hospitals and Clinics of Minnesota, St Paul, Minnesota*

Deidentified individual participant data will not be shared.

Dr Gewirtz O'Brien conceptualized and designed the study, performed statistical analysis, interpreted data, and drafted the initial manuscript; Ms Edinburgh contributed to the study design and interpretation of data; Dr Barnes contributed to data interpretation; Dr McRee contributed to the study design, oversaw statistical analysis, and interpreted data; and all authors reviewed and revised the manuscript, approved the final manuscript as submitted, and agree to be accountable for all aspects of the work.

DOI: https://doi.org/10.1542/peds.2019-2674

Accepted for publication Nov 27, 2019

Address correspondence to Janna R. Gewirtz O'Brien, MD, Division of General Pediatrics and Adolescent Health, Department of Pediatrics, University of Minnesota, 717 Delaware St SE, Suite 353, Minneapolis, MN 55414. E-mail: gewir007@umn.edu

PEDIATRICS (ISSN Numbers: Print, 0031-4005; Online, 1098-4275).

WHAT'S KNOWN ON THIS SUBJECT: Adolescents who have experienced homelessness or run away are at increased risk of adverse mental health outcomes, yet differences among these groups are not well understood.

WHAT THIS STUDY ADDS: This is among the first studies to examine differential outcomes among homeless, runaway, and stably housed youth. The experience of running away was associated with increased risk of poor mental health above and beyond that of unaccompanied homelessness.

To cite: Gewirtz O'Brien JR, Edinburgh LD, Barnes AJ, et al. Mental Health Outcomes Among Homeless, Runaway, and Stably Housed Youth. *Pediatrics*. 2020;145(4):e20192674

An estimated 1 in 30 US adolescents experience some type of unaccompanied homelessness annually.[1] More than 2 decades of research suggests that when a young person's living situation is unstable, they are at increased risk for significant adverse health outcomes, including chronic medical conditions, mental illness, substance use, sexually transmitted infections, and victimization.[2–7]

Research describing typologies of youth homelessness suggests that there may be important differences between subgroups of homeless youth.[8–11] Separate from experiences of family-based homelessness, the term unaccompanied youth homelessness refers to youth <21 years of age in a range of unstable housing situations, including sleeping on the streets, living in shelters, running away, being thrown out, and couchsurfing.[12] Youth who run away are frequently classified as a subtype of homelessness or are grouped with homeless youth in policy and practice, yet many youth run away briefly and spend little or no time on the street.[13,14] A runaway is an individual "less than 18 years of age and who absents himself or herself from home or place of legal residence without the permission of a parent or legal guardian."[15] Although difficult to accurately measure, ~6% of youth run away each year, often in the setting of problematic family functioning and/or a history of abuse or neglect.[13,16–20] Running away is associated with increased risks of sexual assault, pregnancy, depression, suicide, and substance use, which can have consequences that last well into adulthood.[18,21–24]

Although experiences of homelessness and running away are both linked with adverse outcomes, little research to date has examined differences between these populations. Understanding how experiences of homelessness and running away may differentially impact young peoples' health can have implications for practice and policy. We sought to assess differences in mental health outcomes among unaccompanied homeless, runaway, and stably housed youth. We hypothesized that runaway youth and homeless youth may represent different populations with unique mental health needs requiring targeted services and policies.

METHODS

Study Design

We used data from the 2016 minnesota Student Survey (MSS), a statewide, school-based surveillance system coordinated by the Departments of Education, Health, Human Services, and Public Safety.[25] The MSS anonymously assessed students' health, health-related behaviors, and sociodemographic characteristics. It was administered to fifth-, eighth-, ninth- and 11th-grade students at public, tribal, and charter schools across Minnesota. All public schools in Minnesota were invited to participate in the MSS; 85% of schools participated in 2016. Parents were notified of MSS administration and could opt out if they did not want their children to participate. Students could decline, skip questions, or discontinue the survey at any time; 83% of ninth- and 70% of 11th-graders participated. Surveys were conducted in English. Details about the MSS can be found elsewhere.[25] The University of Minnesota Institutional Review Board determined that this secondary analysis was exempt from review by a human research ethics committee.

Sample

We restricted our sample to students in the ninth and 11th grades who answered questions regarding housing status and mental health outcomes. To focus our analysis on the influence of unaccompanied homelessness (ie, homelessness without an adult family member) on mental health outcomes, we excluded those who reported experiencing family homelessness without unaccompanied homelessness. Our analytic sample included 68 785 students who had complete data for all covariates, including abuse history and demographics.

Measures

Housing Status

We classified students' housing status during the past 12 months using 2 questions. We first created an indicator of unaccompanied homelessness using the question, "During the past 12 months, have you stayed in a shelter, somewhere not intended as a place to live, or someone else's home because you had no other place to stay?" We categorized those who answered "yes, I was on my own without any adult family" as having experienced unaccompanied homelessness. We then created an indicator of runaway status using the question, "During the last 12 months, how often have you run away from home?" We categorized students who answered "once or twice," "3 to 5 times," "6 to 9 times," or "10 or more times" as having run away. We then combined these indicators to create 4 mutually exclusive groups: (1) stably housed youth (those who had neither run away nor experienced unaccompanied homelessness), (2) unaccompanied homeless youth (those who had experienced unaccompanied homelessness but had not run away), (3) runaway youth (those who had run away but denied unaccompanied homelessness), and (4) youth who had both run away and been homeless. The runaway group could therefore include any youth who had run away from home briefly, without staying away overnight, and might also include youth who stayed with other family or friends and therefore

may not have considered themselves to have "no other place to stay."

Mental Health Outcomes

We examined 4 dichotomous (yes or no) mental health outcomes: self-injury, suicidal ideation, suicide attempts, and depressive symptoms. The survey assessed self-injury with the question, "During the last 12 months, how many times did you do something to purposely hurt or injure yourself without wanting to die, such as cutting, burning, or bruising yourself on purpose?" Drawing on a previously established approach to the nonnormal distribution of this variable,[26] we classified students as having self-injurious behavior if they answered as having done so 1 or more times.

We assessed suicidal ideation using the question, "Have you ever seriously considered attempting suicide?" We classified students as reporting suicidal ideation if they answered "yes, during the past year." We chose this time frame to be consistent with our housing-related measure. We used a similar approach to create an indicator of suicide attempt using responses to the question, "Have you ever actually attempted suicide: mark all that apply." We classified students as having attempted suicide if they responded "yes, during the past year."

Surveys included the Patient Health Questionnaire-2 (PHQ-2), a commonly used screen that assesses depressive symptoms with 2 questions: "Over the last 2 weeks, how often have you been bothered by: (a) little interest or pleasure in doing things and (b) feeling down, depressed, or hopeless." Response options included not at all (0 points), several days (1 point), more than half the days (2 points), and nearly every day (3 points). The 2 responses were then summed with a maximum score of 6. Although a score of 3 or greater is commonly used as a cut point in primary care with general populations of youth, given the well-documented high burden of mental illness among runaway and homeless youth,[4,18,24,27] we classified students with a score of 4 or higher as having depressive symptoms to increase specificity for major depression (sensitivity 54%; specificity 89%).[28,29]

Sociodemographics

The MSS assessed sociodemographic and health-related variables that have well-established associations with housing status and/or mental health.[1,14,30] Students answered questions regarding grade, race and/

TABLE 1 Sample Characteristics by Housing Status

	Total (N = 68 785), n (%)	Stably Housed (N = 65 021), n (%)	Unaccompanied Homeless (N = 372), n (%)	Runaway (N = 2996), n (%)	Both (N = 396), n (%)	P
Demographics						
Grade						<.001
Ninth	37 310 (54.2)	35 279 (54.3)	159 (42.7)	1691 (56.4)	181 (45.7)	
11th	31 475 (45.8)	29 742 (45.7)	213 (57.3)	1305 (43.6)	215 (54.3)	
Race and/or ethnicity						<.001
American Indian, non-Hispanic	659 (1.0)	568 (0.9)	8 (2.2)	66 (2.2)	17 (4.3)	
Asian American, non-Hispanic	3789 (5.5)	3574 (5.5)	21 (5.7)	181 (6.0)	13 (3.3)	
African American, non-Hispanic	3207 (4.7)	2993 (4.6)	23 (6.2)	178 (5.9)	13 (3.3)	
Pacific Islander, non-Hispanic	87 (0.1)	80 (0.1)	1 (0.3)	4 (0.1)	2 (0.5)	
White, non-Hispanic	50 841 (73.9)	48 541 (74.7)	231 (62.1)	1820 (60.8)	249 (62.9)	
Multiple, non-Hispanic	4614 (6.7)	4168 (6.4)	43 (11.6)	354 (7.7)	49 (12.4)	
Hispanic	5588 (8.1)	5097 (7.8)	45 (12.1)	393 (13.1)	53 (13.4)	
Birth-assigned sex						<.001
Female	34 876 (50.7)	32 784 (50.4)	137 (36.8)	1772 (59.2)	183 (46.2)	
Male	33 909 (49.3)	32 237 (49.6)	235 (63.2)	1224 (40.9)	213 (53.8)	
Sexual orientation						<.001
Heterosexual	62 070 (90.2)	59 155 (91.0)	288 (77.4)	2349 (78.4)	278 (70.2)	
Lesbian, gay, bisexual, or not sure	6715 (9.8)	5866 (9.0)	84 (22.6)	647 (21.6)	118 (29.8)	
Receives free or reduced-price lunch						<.001
Yes	16 925 (24.6)	15 336 (23.6)	170 (45.7)	1227 (41.0)	192 (48.5)	
No	51 860 (75.4)	49 685 (76.4)	202 (54.3)	1769 (59.1)	204 (51.5)	
Area of residence						.069
Twin Cities 7-county area	35 871 (52.2)	33 985 (52.3)	191 (51.3)	1501 (50.1)	194 (49.0)	
Greater Minnesota	32 914 (47.9)	31 036 (47.7)	181 (48.7)	1495 (49.9)	202 (51.0)	
Abuse history, yes[a]						
Intrafamilial verbal	8760 (12.7)	7099 (10.9)	139 (37.4)	1281 (42.8)	241 (60.9)	<.001
Intrafamilial physical	7613 (11.1)	6132 (9.4)	135 (36.3)	1116 (37.3)	230 (58.1)	<.001
Intrafamilial sexual	1420 (2.1)	1086 (1.7)	33 (8.9)	237 (7.9)	64 (16.2)	<.001
Extrafamilial sexual	2418 (3.5)	1827 (2.8)	56 (15.1)	441 (14.7)	94 (23.7)	<.001

P values show results from χ^2 analyses assessing differences by subgroup. Percentages may not sum to 100 because of rounding.

[a] Percentage who endorsed a history of each type of abuse.

or ethnicity, biological sex, sexual orientation, and area of residence (residing in the 7-county Twin Cities area or outside the metropolitan area). The survey assessed both biological sex and identification as gender nonconforming (eg, transgender or genderfluid). We used biological sex in our analysis given the low percentage of students identifying as gender nonconforming (2.4%). We used student report of receiving free or reduced-price lunch as an indicator of poverty.[26,31] Four dichotomous (yes or no) questions assessed different types of intrafamilial and extrafamilial abuse. Students indicated whether they had ever experienced verbal or physical abuse by a parent or other adult in their household, sexual abuse by an older or stronger member of their family, or sexual abuse by an adult or other person outside their family.

Analysis

We used χ^2 analyses to assess differences in demographics, abuse, and mental health by housing status. We then assessed the relationship between housing status and each of the mental health outcomes using separate multivariable logistic regression models controlling for age, grade, race and/or ethnicity, biological sex, sexual orientation, poverty status, area of residence, and abuse history. We used Stata version 15.1 (Stata Corp, College Station, TX) to conduct all analyses. Statistical tests were 2 tailed with a critical α of .05.

RESULTS

Sample Characteristics

Most youth in our sample (95%) reported being stably housed in the past year; 0.5% had experienced unaccompanied homelessness, 4% had run away from home, and 0.6% reported both homelessness and having run away (Table 1). Overall, roughly half of students reported being in ninth grade (54%) or being male (49%). The sample was racially and ethnically diverse. With respect to sexuality, 23% of unaccompanied homeless youth, 22% of runaways, and 30% in the both group identified as lesbian, gay, or questioning compared with 10% of stably housed peers. Housing groups differed ($P <$ .001) with regard to most characteristics except for area of residence; youth in the Twin Cities metropolitan and Greater Minnesota areas had similar rates of experiencing unaccompanied homelessness and running away.

Associations Between Housing Status and Mental Health Outcomes

Self-injury, suicidal ideation, suicide attempts, and depressive symptoms were frequently reported among youth who experienced homelessness and/or running away (Fig 1). Across mental health outcomes, youth who had experienced both unaccompanied homelessness and had run away had the highest prevalence of each outcome, followed by those who had run away, then those who had experienced unaccompanied homelessness, with the lowest prevalence seen among those who had been stably housed. For example, one-third (33%) of youth in the both group reported suicide attempts in the past year; the percentages of youth in the runaway, unaccompanied homeless, and stably housed groups who reported suicide attempts were 20%, 11%, and 2%, respectively.

Findings from multivariable analyses controlling for demographics and history of abuse followed a similar pattern. Compared with youth who were stably housed, youth in the unaccompanied homeless, runaway, and both groups had greater odds of experiencing self-injury, suicidal ideation, and suicide attempts (all $P <$ .01; Table 2). Youth who had run away and youth who had experienced both unaccompanied homelessness and running away had greater odds of having depressive symptoms compared with stably housed youth, but there was no difference in depressive symptoms between young people who had experienced homelessness only and those who were stably housed.

DISCUSSION

Findings from this statewide study demonstrate important differences in

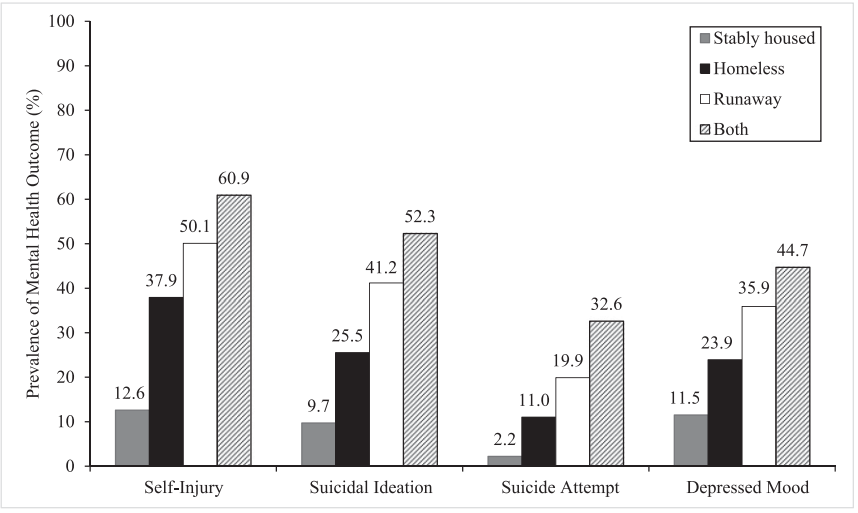

FIGURE 1
Mental health outcomes by housing status. Self-injury, suicidal ideation, and suicide attempt all refer to the past year. Depressed mood was assessed by using the PHQ-2, a widely used screen for depression that assesses reported symptoms over the previous 2 weeks. To increase the screen's sensitivity, we used a cutoff of 4 or greater. $P <$ .001 for all outcomes.

TABLE 2 Associations Between Housing Status and Mental Health Outcomes

	Self-Injury, Past Year		Suicidal Ideation, Past Year		Suicide Attempt, Past Year		Depressed Mood[a]	
	aOR	95% CI	aOR	95% CI	aOR	95% CI	aOR	95% CI
Stably housed	Referent	—	Referent	—	Referent	—	Referent	—
Homeless	2.7	2.1–3.5*	1.6	1.2–2.1*	2.4	1.7–3.5*	1.3	1.0–1.6
Runaway	4.0	3.7–4.4*	3.4	3.1–3.7*	4.9	4.4–5.6*	2.3	2.1–2.5*
Both runaway and homeless	4.9	3.8–6.2*	3.7	2.9–4.7*	7.1	5.5–9.2*	2.4	1.9–3.0*

Results from multivariable logistic regression models controlling for age, grade, race and/or ethnicity, biological sex, sexual orientation, free and reduced-price lunch (surrogate for poverty), area of residence (metropolitan area versus Greater Minnesota area), and abuse history (includes intrafamilial physical, emotional, and sexual abuse as well as extrafamilial abuse). CI, confidence interval; aOR, adjusted odds ratio.

[a] The PHQ-2 is a widely used screen for depression. To increase the screen's specificity and positive predictive value, we used a cutoff of 4 or greater.

* $P < .01$.

mental health outcomes between youth based on their experiences of homelessness and running away. Youth who both ran away from home and experienced homelessness in the past year had >7 times greater odds of attempting suicide compared with their housed peers who had not run away, and this risk remained elevated (albeit to a somewhat lesser degree) for youth who had run away but had stable housing and for unaccompanied homeless youth who had not run away. These findings extend previous work regarding the heterogeneity of youth who experience unaccompanied homelessness. Importantly, the vast majority of youth in our data who reported running away did not also report unaccompanied homelessness, suggesting that these are distinct, but sometimes overlapping, groups. Although other studies suggest that youth who have run away are at particularly high risk for poor mental health outcomes,[18,19,32] to our knowledge, this study is the first to demonstrate that running away confers significant elevated mental health risk independent from that associated with unaccompanied homelessness.

Previous research has explored typologies of housing instability and homelessness, highlighting the heterogeneity of experiences of unaccompanied homeless and runaway youth,[8,10,11,33] but there have been few recent studies that separate and compare health outcomes among these populations.[1,10] Previous literature has classified youth by motive for leaving the home.[8,10,11] Others have proposed a needs-based typology of homeless youth, advocating for multifaceted service programs to address the needs of homeless youth.[33] Voices of Youth Count[1] data provide much-needed information about "explicit homelessness" (including running away) and couch surfing, highlighting the importance of a more inclusive definition of homelessness. Our findings reveal that youth with different housing experiences may have unique unmet mental health needs, suggesting that it may be important to account for housing experience when designing interventions for this population.

Consistent with other studies,[10] we found significant sociodemographic differences between housing groups, including differences in biological sex, race and ethnicity, sexual orientation, and abuse history, providing further support that runaway and homeless youth may represent unique populations. Lesbian, gay, bisexual, transgender, and queer youth in particular were overrepresented among all unstably housed groups, with particularly high prevalence (30%) in the both group, similar to previous literature documenting elevated levels of homelessness among lesbian, gay, bisexual, transgender, and queer youth.[1,34,35] However, even when controlling for these differences, our analyses revealed significant differences in the experience of mental health outcomes between groups.

Our study underscores the importance of recognizing these differences and their associated health implications. Although it is well established that youth who have experienced homelessness or have run away are at high risk of poor mental health outcomes, and that poor mental health may precipitate runaway episodes and persist into adulthood,[18,27,32] to our knowledge, there are no recent studies comparing mental health outcomes between runaway and homeless youth. We found that running away is associated with significant mental health risk even when it is not associated with unaccompanied homelessness. This was unsurprising given the well-documented association of runaway episodes with poor family function.[13,16,32,36] Strong family connections are a known protective factor for all adolescents,[31,37] including runaway youth.[24,32,38] Runaway episodes are also associated with increased risk of trauma and exploitation, which could contribute to the observed increased mental health risk.[14,21,24,39–41] Although we were

able to control for some forms of abuse, these measures may not capture exploitation and other forms of trauma experienced while away from home. Further study is needed to elucidate the underlying factors contributing to the increased risk of poor mental health associated with running away.

Running away was extremely common within our school-based sample, with 5% of youth reporting that they had run away at least once in the past year. Previous studies describing the prevalence of runaway episodes are inconsistent, ranging from 6%[13] to 5.3% per 1000.[42] These differences are likely due to variations in survey methodologies and definitions of running away. Importantly, running away is thought to be a precursor to homelessness.[43,44] Given the high prevalence of running away and its strong association with poor mental health outcomes, identifying youth who have run away may provide an opportunity to provide support and prevent progression to chronic homelessness.

Our findings have important policy and practice implications. Federal government agencies frequently group runaway and homeless youth together in services and legislation, yet these populations may benefit from more targeted interventions. Inclusive definitions of unaccompanied youth homelessness and runaway youth are critical, as is recognition of the nuanced differences between subgroups of unaccompanied homeless youth.[1,45] Research, policy, and practice should account for important differences between these groups.

Our study reveals that runaway youth are at particularly high risk even when they have not had traditional experiences of unaccompanied homelessness, such as living on the street or in shelters or couch surfing. Few targeted programs exist for youth who have run away, and fewer have been evaluated. The National Runaway Safeline, a 24/7 phone line for youth who have run away and their families, represents one example of a targeted national intervention and resource for runaway youth.[46] Minnesota's nurse-led Runaway Intervention Program incorporates home visiting, intensive case management, and empowerment groups, providing an example of a novel and effective targeted intervention for runaway youth, which has shown promise for improving mental health outcomes.[47,48]

The high prevalence of runaway and homeless youth in this school-based sample suggests that professionals across sectors likely interact with young people experiencing these conditions. Intervening early in the cycle of youth homelessness, while youth remain connected with communities and services, may be critical to preventing progression to more chronic homelessness.[49] Schools and youth-serving community agencies may benefit from training on how to identify and intervene with young people with these experiences. Health care professionals also have a critical role to play in screening for runaway episodes and homelessness and working to support youth and families who are at risk. Further research is needed to clarify best practices for screening in these settings and intervening to address running away and unaccompanied youth homelessness.

Given the particularly high risk for adverse outcomes among youth who experienced both homelessness and running away, youth housing programs should work to connect runaway youth in shelters with mental health support and services. However, policies that allow homeless youth to access and consent to mental health care are needed to make these efforts a reality,[50] underscoring the need for intervention at multiple levels to support the health needs of vulnerable young people.

Our study is strengthened by the use of data from a statewide sample with adequate size to distinguish between different homeless and runaway experiences not found with other population-based data. Limitations include a cross-sectional design, which prevents causal inference, and self-reported measures, which may result in response bias. However, other research finds that youth can reliably report engagement in risk behaviors[51] and that self-reported experience of homelessness may be more accurate than other methods of enumeration.[52,53] Although the MSS provides rich information regarding those youth who are enrolled in school, it does not capture youth who may not be enrolled or who do not attend, a population that is likely overrepresented among homeless and runaway youth. Thus, experiences of homelessness and running away may be underreported in our sample. Generalizability of findings to youth in other contexts (eg, those out of school, youth in juvenile corrections facilities, or those in other geographic locations) remains to be established. Furthermore, the MSS did not assess the duration of homelessness or runaway experience or other contextual information that could be important for understanding youth experiences.

CONCLUSIONS

The experience of running away is associated with increased risk of poor mental health above and beyond that of unaccompanied homelessness. Tailored clinical and community interventions to meet the unique needs of homeless and runaway youth are critical.

Clinicians in primary care, school health, and community settings (eg, shelter-based health care) are well positioned to identify and intervene with runaway and homeless youth. Additional research is needed regarding clinical best practice for identifying and intervening to support youth and families who may be at risk for or are experiencing housing instability.

ABBREVIATIONS

MSS: Minnesota Student Survey
PHQ-2: Patient Health Questionnaire-2

FINANCIAL DISCLOSURE: The authors have indicated they have no financial relationships relevant to this article to disclose.

FUNDING: Supported by the Leadership Education in Adolescent Health Training Project (Health Resources and Services Administration T71MC00006-39-02; principal investigator: Sieving) and the Leadership Education in Neurodevelopmental and Related Disabilities training program (Health Resources and Services Administration T73MC12835; principal investigator: Hewitt).

POTENTIAL CONFLICT OF INTEREST: The authors have indicated they have no potential conflicts of interest to disclose.

REFERENCES

1. Morton MH, Dworsky A, Matjasko JL, et al. Prevalence and correlates of youth homelessness in the United States. *J Adolesc Health*. 2018;62(1):14–21
2. Council on Community Pediatrics. Providing care for children and adolescents facing homelessness and housing insecurity. *Pediatrics*. 2013; 131(6):1206–1210
3. Begun S. The paradox of homeless youth pregnancy: a review of challenges and opportunities. *Soc Work Health Care*. 2015;54(5):444–460
4. Cauce AM, Paradise M, Ginzler JA, et al. The characteristics and mental health of homeless adolescents. *J Emot Behav Disord*. 2000;8(4):230–239
5. Kulik DM, Gaetz S, Crowe C, Ford-Jones EL. Homeless youth's overwhelming health burden: a review of the literature. *Paediatr Child Health*. 2011; 16(6):e43–e47
6. Rich OJ. Vulnerability of homeless pregnant and parenting adolescents. *J Perinat Neonatal Nurs*. 1992;6(3): 37–46
7. Tyler KA, Whitbeck LB, Hoyt DR, Cauce AM. Risk factors for sexual victimization among male and female homeless and runaway youth. *J Interpers Violence*. 2004;19(5):503–520
8. Zide MR, Cherry AL. A typology of runaway youths: an empirically based definition. *Child Adolesc Social Work J*. 1992;9(2):155–168
9. Gray OI. Typologies of homeless youth. 1990. Available at: http://archives.pdx.edu/ds/psu/13135. Accessed October 31, 2018
10. Thompson SJ, Safyer AW, Pollio DE. Differences and predictors of family reunification among subgroups of runaway youths using shelter services. *Soc Work Res*. 2001;25(3):163–172
11. Hier SJ, Korboot PJ, Schweitzer RD. Social adjustment and symptomatology in two types of homeless adolescents: runaways and throwaways. *Adolescence*. 1990;25(100):761–771
12. Voices of Youth Count. Missed opportunities: youth homelessness in America national estimates. 2017. Available at: http://voicesofyouthcount.org/wp-content/uploads/2017/11/VoYC-National-Estimates-Brief-Chapin-Hall-2017.pdf. Accessed January 30, 2019
13. Sanchez RP, Waller MW, Greene JM. Who runs? A demographic profile of runaway youth in the United States. *J Adolesc Health*. 2006;39(5):778–781
14. Hammer H, Finkelhor D, Sedlak AJ. Runaway/thrownaway children: national estimates and characteristics. 2002. Available at: http://digitalcommons.unl.edu/humtraffdata/20/. Accessed August 8, 2018.
15. Family and Youth Services Bureau. Runaway and homeless youth program authorizing legislation. 2018. Available at: https://www.acf.hhs.gov/fysb/resource/rhy-act. Accessed July 2, 2019
16. Holliday SB, Edelen MO, Tucker JS. Family functioning and predictors of runaway behavior among at-risk youth. *Child Adolesc Social Work J*. 2017;34(3): 247–258
17. Tyler KA, Johnson KA. A longitudinal study of the effects of early abuse on later victimization among high-risk adolescents. *Violence Vict*. 2006;21(4):287–306
18. Tucker JS, Edelen MO, Ellickson PL, Klein DJ. Running away from home: a longitudinal study of adolescent risk factors and young adult outcomes. *J Youth Adolesc*. 2011;40(5):507–518
19. Thompson SJ, Zittel-Palamara KM, Maccio EM. Runaway youth utilizing crisis shelter services: predictors of presenting problems. *Child Youth Care Forum*. 2004;33(6):387–404
20. Thrane LE, Hoyt DR, Whitbeck LB, Yoder KA. Impact of family abuse on running away, deviance, and street victimization among homeless rural and urban youth. *Child Abuse Negl*. 2006;30(10): 1117–1128
21. Thrane LE, Yoder KA, Chen X. The influence of running away on the risk of female sexual assault in the subsequent year. *Violence Vict*. 2011; 26(6):816–829
22. Thrane LE, Chen X. Impact of running away on girls' pregnancy. *J Adolesc*. 2012;35:443–449
23. Meltzer H, Ford T, Bebbington P, Vostanis P. Children who run away from home: risks for suicidal behavior and substance misuse. *J Adolesc Health*. 2012;51(5):415–421
24. Edinburgh LD, Harpin SB, Garcia CM, Saewyc EM. Differences in abuse and

related risk and protective factors by runaway status for adolescents seen at a US child advocacy centre. *Int J Child Adolesc Resil*. 2013;1(1):4–16

25. Minnesota Student Survey Interagency Team. Minnesota student survey 2016. Available at: https://public.education.mn.gov/MDEAnalytics/DataTopic.jsp?TOPICID=242. Accessed August 18, 2018
26. Barnes AJ, Gilbertson J, Chatterjee D. Emotional health among youth experiencing family homelessness. *Pediatrics*. 2018;141(4):e20171767
27. Medlow S, Klineberg E, Steinbeck K. The health diagnoses of homeless adolescents: a systematic review of the literature. *J Adolesc*. 2014;37(5):531–542
28. Richardson LP, Rockhill C, Russo JE, et al. Evaluation of the PHQ-2 as a brief screen for detecting major depression among adolescents. *Pediatrics*. 2010;125(5). Available at: www.pediatrics.org/cgi/content/full/125/5/e1097
29. Kroenke K, Spitzer RL, Williams JB. The Patient Health Questionnaire-2: validity of a two-item depression screener. *Med Care*. 2003;41(11):1284–1292
30. Fernandes-Alcantara AL. *Runaway and Homeless Youth: Demographics and Programs*. Washington, DC: Congressional Research Service; 2013:1–38
31. Sieving RE, McRee A-L, McMorris BJ, et al. Youth-adult connectedness: a key protective factor for adolescent health. *Am J Prev Med*. 2017;52(3, suppl 3):S275–S278
32. Thompson SJ, Cochran G, Barcyzk AN. Family functioning and mental health in runaway youth: association with posttraumatic stress symptoms. *J Trauma Stress*. 2009;22(4):303–306
33. Coward Bucher CE. Toward a needs-based typology of homeless youth. *J Adolesc Health*. 2008;42(6):549–554
34. Keuroghlian AS, Shtasel D, Bassuk EL. Out on the street: a public health and policy agenda for lesbian, gay, bisexual, and transgender youth who are homeless. *Am J Orthopsychiatry*. 2014;84(1):66–72
35. Van Leeuwen JM, Boyle S, Salomonsen-Sautel S, et al. Lesbian, gay, and bisexual homeless youth: an eight-city public health perspective. *Child Welfare*. 2006;85(2):151–170
36. Whitbeck LB, Hoyt DR, Ackley KA. Families of homeless and runaway adolescents: a comparison of parent/caretaker and adolescent perspectives on parenting, family violence, and adolescent conduct. *Child Abuse Negl*. 1997;21(6):517–528
37. Resnick MD, Bearman PS, Blum RW, et al. Protecting adolescents from harm. Findings from the National Longitudinal Study on Adolescent Health. *JAMA*. 1997;278(10):823–832
38. Saewyc EM, Edinburgh LD. Restoring healthy developmental trajectories for sexually exploited young runaway girls: fostering protective factors and reducing risk behaviors. *J Adolesc Health*. 2010;46(2):180–188
39. Edinburgh L, Pape-Blabolil J, Harpin SB, Saewyc E. Assessing exploitation experiences of girls and boys seen at a child advocacy center. *Child Abuse Negl*. 2015;46:47–59
40. Bender K, Brown SM, Thompson SJ, Ferguson KM, Langenderfer L. Multiple victimizations before and after leaving home associated with PTSD, depression, and substance use disorder among homeless youth. *Child Maltreat*. 2015;20(2):115–124
41. Tyler KA, Gervais SJ, Davidson MM. The relationship between victimization and substance use among homeless and runaway female adolescents. *J Interpers Violence*. 2013;28(3):474–493
42. Sedlak AJ, Finkelhor D, Brick JM; Office of Juvenile Justice and Delinquency Prevention, Office of Justice Programs, US Department of Justice. National estimates of missing children: updated findings from a survey of parents and other primary caretakers. 2017. Available at: https://ojjdp.ojp.gov/sites/g/files/xyckuh176/files/pubs/250089.pdf. Accessed June 11, 2019
43. Simons RL, Whitbeck LB. Running away during adolescence as a precursor to adult homelessness. *Soc Serv Rev*. 1991;65:224–247
44. Sznajder-Murray B, Jang JB, Slesnick N, Snyder A. Longitudinal predictors of homelessness: findings from the National Longitudinal Survey of Youth-97. *J Youth Stud*. 2015;18(8):1015–1034
45. Auerswald CL, Adams S. Counting all homeless youth today so we may no longer need to tomorrow. *J Adolesc Health*. 2018;62(1):1–2
46. National Runaway Safeline. Runaway statistics: crisis hotline & online service statistics. Available at: https://www.1800runaway.org/runaway-statistics/crisis-hotline-online-services-statistics/. Accessed January 30, 2019
47. Bounds DT, Edinburgh LD, Fogg LF, Saeywc EM. A nurse practitioner-led intervention for runaway adolescents who have been sexually assaulted or sexually exploited: effects on trauma symptoms, suicidality, and self-injury. *Child Abuse Negl*. 2019;90:99–107
48. Edinburgh LD, Saewyc EM. A novel, intensive home-visiting intervention for runaway, sexually exploited girls. *J Spec Pediatr Nurs*. 2009;14(1):41–48
49. Carlson JL, Sugano E, Millstein SG, Auerswald CL. Service utilization and the life cycle of youth homelessness. *J Adolesc Health*. 2006;38(5):624–627
50. National Law Center on Homelessness and Poverty; National Network for Youth. Alone without a home: a national review of state laws affecting unaccompanied youth. 2019. Available at: https://www.nn4youth.org/wp-content/uploads/Alone-Without-A-Home-2019.pdf. Accessed April 29, 2019
51. Sieving RE, Beuhring T, Resnick MD, et al. Development of adolescent self-report measures from the National Longitudinal Study of Adolescent Health. *J Adolesc Health*. 2001;28(1):73–81
52. Cutuli JJ. Homelessness in high school: population-representative rates of self-reported homelessness, resilience, and risk in Philadelphia. *Soc Work Res*. 2018;42(3):159–168
53. Cutuli JJ, Steinway C, Perlman S, Herbers JE, Eyrich-Garg KM, Willard J. Youth homelessness: prevalence and associations with weight in three regions. *Health Soc Work*. 2015;40(4):316–324