



## Original article

## Prevalence and Correlates of Youth Homelessness in the United States


 Matthew H. Morton, Ph.D. <sup>a,\*</sup>, Amy Dworsky, Ph.D. <sup>a</sup>, Jennifer L. Matjasko, Ph.D. <sup>b</sup>,  
 Susanna R. Curry, M.S.W., Ph.D. <sup>a,c</sup>, David Schlueter <sup>d</sup>, Raúl Chávez, M.A. <sup>e</sup>, and Anne F. Farrell, Ph.D. <sup>a</sup>
<sup>a</sup> Chapin Hall at the University of Chicago, Chicago, Illinois<sup>b</sup> Division of Violence Prevention, Centers for Disease Control and Prevention, Atlanta, Georgia<sup>c</sup> School of Social Services Administration, University of Chicago, Chicago, Illinois<sup>d</sup> Department of Biostatistics, Vanderbilt University School of Medicine, Nashville, Tennessee<sup>e</sup> Department of Social Welfare, University of California, Berkeley, California

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## A B S T R A C T

**Purpose:** Unaccompanied youth homelessness is a serious concern. Response, however, has been constrained by the absence of credible data on the size and characteristics of the population and reliable means to track youth homelessness over time. We sought to address these gaps.

**Methods:** Using a nationally representative phone-based survey (N = 26,161), we solicited household and individual reports on different types of youth homelessness. We collected household reports on adolescents aged 13–17 and young adults aged 18–25, as well as self-reports from young adults aged 18–25. Follow-up interviews with a subsample (n = 150) provided additional information on youth experiences and enabled adjustment for inclusion errors.

**Results:** Over a 12-month period, approximately 3.0% of households with 13- to 17-year-olds reported explicit youth homelessness (including running away or being asked to leave) and 1.3% reported experiences that solely involved couch surfing, resulting in an overall 4.3% household prevalence of any homelessness, broadly defined. For 18- to 25-year-olds, household prevalence estimates were 5.9% for explicitly reported homelessness, 6.6% for couch surfing only, and 12.5% overall. The 12-month population prevalence estimates, available only for 18- to 25-year-olds, were 5.2%, 4.5%, and 9.7%, respectively. Incidence rates were about half as high as prevalence rates. Prevalence rates were similar across rural and nonrural counties. Higher risk of homelessness was observed among young parents; black, Hispanic, and lesbian, gay, bisexual, or transgender (LGBT) youth; and those who did not complete high school.

**Conclusions:** The prevalence and incidence of youth homelessness reveal a significant need for prevention and youth-centric systems and services, as well as strategies to address disproportionate risks of certain subpopulations.

**IMPLICATIONS AND CONTRIBUTION**

This paper reports U.S. prevalence estimates of unaccompanied youth homelessness for ages 13–25 based on a nationally representative survey. Results suggest that youth homelessness is a significant national challenge and reveal subpopulations at particular risk.

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\* Address correspondence to: Matthew Morton, Ph.D., Chapin Hall at the University of Chicago, 1313 E 60th Street, Chicago, IL 60637.

E-mail address: [mmorton@chapinhall.org](mailto:mmorton@chapinhall.org) (M. Morton).

Youth homelessness is a serious concern. Evidence shows that youth who experience homelessness are at high risk of exposure to a range of physical [1] and mental [2,3] health problems, violence [4], early pregnancy [5], substance use [6], and early death [7]. However, efforts to solve the problem have been constrained by the absence of credible data on the size and characteristics of the population and reliable means to track youth homelessness over time. In response, this study was undertaken as part of Voices of Youth Count (VoYC), a national research initiative on youth homelessness led by Chapin Hall at the University of Chicago. The research was designed to address critical evidence gaps while also responding to the federal Runaway and Homeless Youth Act (RHYA; P.L. 110–378), which calls for replicable national prevalence and incidence estimates of youth homelessness and data concerning the population's needs and characteristics.

Federal definitions encompass distinct aspects of youth homelessness. The Homeless Emergency Assistance and Rapid Transition to Housing Act of 2009, for example, defines homelessness partly by individuals' sleeping arrangements—mainly unsheltered (e.g., sleeping in public places) or sheltered (e.g., homeless shelter or transitional housing). Moreover, it includes youth staying with others (e.g., couch surfing or doubling up) if they are considered homeless under other Federal definitions and meet additional conditions, or if they are fleeing unsafe situations [8]. Conversely, the RHYA definition makes no reference to sleeping location. It defines youth homelessness exclusively by the circumstances of the experience: a person within the defined age range “for whom it is not possible to live in a safe environment with a relative, and who has no other safe alternative living arrangement” [8]. Similarly, studies have used a range of parameters and indicators to estimate youth homelessness in the absence of any “gold standard” measure [9–11].

Moreover, previous estimates of youth homelessness have involved varying age ranges. For example, the U.S. Department of Housing and Urban Development's Annual Homeless Assessment Report [11] documents youth homelessness up to age 24; other national estimates focus on adolescent years [9,10]. The RHYA calls for estimates among 13- to 25-year-olds and drives the age parameters of this study.

Methods for identification and sampling have further implications for the reliability and inclusiveness of estimates [12]. Point-in-time counts, which are required of communities funded by the U.S. Department of Housing and Urban Development to deliver homelessness programs, enumerate the number of people experiencing homelessness on a specific night in January and rely largely on street- and shelter-based identification. This reliance means that youth experiencing homelessness on other nights or more hidden forms of homelessness on the night of the count—such as couch surfing, sleeping in discreet or remote locations, and youth who actively avoid services and being counted—are not reflected in the estimates [13]. School-based administrative and survey data, such as the U.S. Department of Education's data on student homelessness and the Youth Risk Behavior Survey data based on optional homelessness modules, inherently exclude out-of-school youth and young adults [10,14]. Given such differences, previous national estimates of the size of the population experiencing youth homelessness have varied widely.

The present study addressed two primary research questions. First, what is the estimated 12-month prevalence of unaccompanied youth homelessness? Second, what youth and

household characteristics are associated with increased risk of a homeless experience?

We both examine youth homelessness broadly and segment different forms of homelessness. The broad definition includes individuals, aged 13–25, living in places not meant for human habitation, in shelters or transitional housing (or other temporary housing arrangement), or staying with others while lacking a safe and stable alternative living arrangement. Couch surfing, which can reflect a common subset of youth homelessness experiences (“staying with others”), involves “mov[ing] from one temporary living arrangement to another without a secure ‘place to be’” [15]. However, because some classifications include staying with others under broader concepts of housing instability rather than homelessness [16], we report prevalence with and without youth that only had couch surfing experiences. Running away, also taken as a subset of youth homelessness experiences, is defined by RHYA as a minor “who absents himself or herself from home or a place of legal residence without the permission of a parent or legal guardian.” Unaccompanied, which is variably defined in the literature, refers in this case to the absence of a parent or legal guardian.

## Methods

### Sample

We surveyed a nationally representative sample of adults whose households included 13- to 25-year-olds over the preceding 12 months. During two rounds of data collection, each involving different random samples, from July to September 2016 (round 1) and May to July 2017 (round 2), a homelessness module was added to Gallup, Inc.'s U.S. Politics and Economics Daily Tracking Survey (DTS) [17]. Because we captured 12-month prevalence, we do not suspect that a lack of seasonal variation in the timing of data collection was consequential for estimates, although this would be worth exploring in future research. The DTS used a dual-frame (cellular and landline) random-digit dial telephone sample to interview a national quota of 500 adults per day. Daily samples included quotas of 60% cell phone respondents and 40% landline respondents. The DTS response rate averages 12%. Although prior research has found response rate to be an unreliable indicator of bias, this response rate is also typical of, or slightly higher than, other phone-based surveys [18].

The second round increased the overall sample size for greater precision and included follow-up interviews. Follow-up interviews were conducted during the second round with a random sample of respondents who reported any youth homelessness (explicitly) or couch surfing. Follow-up interviews were generally conducted within 2–3 days after the respondent's completion of the DTS. We established quotas of 50 completed follow-up interviews for each of three groups: (1) respondents who reported that a household member aged 13–17 experienced homelessness or couch surfing, (2) respondents who reported that a household member aged 18–25 experienced homelessness or couch surfing, and (3) 18- to 25-year-olds who reported that they experienced homelessness or couch surfing. The follow-up interviews response rate was 32%. Although a relatively small subset of a larger sample, accumulating a substantially larger subsample would have required a much bigger time period and cost burden for running the module with the DTS, completing interviews, and transcription, and coding. Nonetheless, using the

follow-up interviews for estimating inclusion errors and examining experiences allowed for markedly greater accuracy and understanding of the prevalence estimates. Data collection began after the University of Chicago's Institutional Review Board approval. Respondents provided verbal informed consent.

### Measures

This study involved three instruments: the DTS, a brief 19-item youth homelessness prevalence and incidence module, and a more detailed follow-up interview protocol. The DTS solicited demographic characteristics on respondents, including age, sex, race/ethnicity, household income, employment, education, county population density, sexual orientation and gender identity, and marital and parenting status.

The brief youth homelessness module was administered to adult respondents whose households included members aged 13–17 or 18–25 and young adults aged 18–25. Reflecting different experiences of homelessness, we asked adults whose households included at least one person aged 13–17 if any of those individuals had (a) run away, (b) left home because of being asked to leave, (c) couch surfed, or (d) been homeless in the last 12 months. Adults whose households had at least one individual aged 18–25 were asked if any of those individuals had (a) couch surfed or (b) been homeless. Adults who themselves were aged 18–25 were asked if they had (a) couch surfed or (b) been homeless. The literature notes stigmatization and varied interpretations sometimes associated with the term “homeless,” hence the inclusion of additional indicators [3]. Before the study, interviewers field-tested the homelessness module ( $n = 20$ ); modest changes were made based on this cognitive testing.

The follow-up interviews involved a mixed-methods approach, for example, questions with closed and open-ended response options. Closed queries addressed youth characteristics, sleeping arrangements, duration, frequencies, vulnerabilities, service utilization, and causes. Open-ended questions elicited additional detail about the young person's homelessness or couch surfing experiences, causes, and occurrences in which the young person felt unsafe or in distress. These data also increased our ability to account for inclusion errors, which occurred if a person or experience was inappropriately captured in the initial prevalence estimates.

### Analyses

For our first research question, we estimated the prevalence of homelessness by calculating sample proportions along with associated uncertainty (95% confidence intervals [CIs]) in these estimates. Population or household weights were used for descriptive statistics to compensate for disproportionalities in selection probabilities and nonresponders. Based on the proportion of inclusion errors among the follow-up interviews, we made subsequent adjustments to prevalence estimates. We present segmented estimates of certain types of homelessness, namely, experiences that the respondent described explicitly as homelessness (“explicit homelessness”)<sup>1</sup> and experiences that

were restricted to couch surfing and not referred to explicitly as “homelessness” (“couch surfing only”). Further, we include a broader estimate of any homelessness that combines the two. For 13- to 17-year-olds, the explicit homelessness category includes experiences of having been away from home for at least one night due to running away or being asked to leave.

We estimated two types of 12-month prevalence: (1) *household* prevalence, that is, the share of households with youth members in the specified age groups in which any of those members had experienced homelessness, and (2) *population* prevalence, that is, the share of the youth population of the specified age group that experienced homelessness. Because this survey was administered to adults (aged 18 and over), we could estimate only household prevalence for the 13–17 age group. For 18- to 25-year-olds, we estimated both household and population prevalence. Because divergent life stages, normative expectations, and legal statuses distinguish the subsets of adolescent minors (13–17) and young adults (18–25), we separated these groups in analyses.

We used NVivo 11 [19] to conduct qualitative analyses of responses to open-ended questions in the follow-up interviews. Based on the broad operational definition of unaccompanied youth homelessness, two researchers independently reviewed and compared decisions for including or excluding reported experiences of homelessness from the initial survey. Inter-rater reliability agreement was 92%, and remaining cases were discussed and conferenced with a third researcher until 100% consensus was achieved. We then calculated inclusion error rates and used these to adjust initial prevalence estimates.

To estimate the number of households with youth aged 13–17 and 18–25 who had experienced homelessness in the last 12 months, we applied the relevant household prevalence rates to the number of households in the U.S. with any occupants belonging to corresponding age groups, according to the U.S. Census Bureau's 2015 American Community Survey (ACS) data [20]. To produce a population estimate for individuals aged 18–25, we applied the population prevalence rates to the number of 18- to 25-year-olds in the U.S. according to 2015 ACS data.

For our second research question, we used Stata 14.0 [21] for descriptive statistics and logistic regression, examining cross-sectional bivariate associations of homelessness with various demographic characteristics and producing unadjusted and adjusted risk ratios, reporting 95% CIs for each. To ease interpretation, we used the Stata command “oddsrisk” to convert odds ratios to risk ratios with associated CIs [22]. The logistic regression model was based on the self-reported data for respondents aged 18–25; these data contained the most information about the young people themselves because DTS questions referred to the respondents. Additionally, the dependent variable was limited to explicitly reported homelessness because these reports involved the fewest inclusion errors.

### Sample characteristics

The homelessness module was administered to 26,161 of 68,539 DTS respondents (38.2%) who met the eligibility criteria. The sample was broadly representative of the U.S. population with respect to sex, race/ethnicity, income, and employment (see Table 1). Prevalence estimates were drawn from three subsamples of respondents: (1) 13,560 with at least one member aged 13–17, (2) 16,975 with at least one other household member aged 18–25, and (3) 6,295 who were themselves 18- to 25-year-old

<sup>1</sup> We use the term “explicit homelessness” rather than the term “literal homelessness” because the latter is generally used to refer specifically to sleeping in places not meant for human habitation, in a homelessness shelter, or in transitional housing. Respondents may or may not have referred to these types of sleeping arrangements when responding “yes” to the question on homelessness experiences.

**Table 1**  
National survey sample characteristics compared with U.S. Census Bureau data

	DTS weighted sample	U.S. Census (aged 18+)
Female	51.0%	51.3%
White	68.1%	67.2%
Black or African-American	12.8%	12.8%
Asian	2.1%	6.2%
Hispanic or Latino	15.4%	15.0%
Reside in rural counties	13.5%	14.4%
Median household annual income	\$60,000–\$89,999	\$53,889
Unemployment rate	5.0%	4.9%

Notes: The Daily Tracking Survey (DTS) N = 68,539. U.S. Census statistics are all for 2015 and extracted from: [https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=PEP\\_2016\\_PEPASR5H&prodType=table](https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=PEP_2016_PEPASR5H&prodType=table), accessed on August 1, 2017. The unemployment reference statistic was extracted from U.S. Bureau of Labor Statistics data for July–September 2016, available at: <https://data.bls.gov/timeseries/LNS14000000>, accessed on August 1, 2017. The median annual income is presented as a range because the DTS queried on income as a categorical variable; respondents were asked to describe annual income in relationship to ranges rather than to give an actual value.

(some respondents belonged to more than one subsample). The sample size for the follow-up interviews was 150. We tested for differences on a range of variables including education, employment, income, and other demographics between the follow-up interview subsample and the overall sample and found no significant differences apart from the modestly younger mean age of follow-up interview respondents (due to quotas).

## Results

Based on initial household prevalence estimates, over a 12-month period, approximately 3.4% of households with 13- to 17-year-olds explicitly reported homelessness experiences (including running away or being asked to leave) among them, and 2.8% reported experiences that solely involved couch surfing, resulting in an overall 5.3% household prevalence. For ages 18–25, household prevalence estimates were 6.7% for explicitly reported homelessness, 14.3% for couch surfing only, and 21.0% overall. The initial 12-month population prevalence estimates, available only for ages 18–25, were 5.9%, 9.7%, and 15.6%, respectively.

**Table 2**  
Summary of identified inclusion errors in the follow-up interview sample

Reason for error of inclusion	N 13–17 Household reports		N 18–25 Household reports		N 18–25 Self-reports		N Total	
	H	C-o	H	C-o	H	C-o	H	C-o
Total N	35	15	17	33	29	21	81	69
Accompanied by a parent/guardian	2	2	0	0	0	0	2	2
Misunderstanding: person outside age range	0	0	1	2	1	1	2	3
Misunderstanding: misreported experience	0	0	0	2	0	0	0	2
Misunderstanding: experience occurred beyond 12-month reporting period	1	1	0	0	0	0	1	1
Interpreted safe/normative/stably housed experience as couch surfing for ages 13–17	3	4	0	0	0	0	3	4
Interpreted safe/normative/stably housed experience as couch surfing for ages 18–25	0	0	0	14	2	11	2	25
Total inclusion errors, N (%)	6 (17%)	7 (47%)	1 (6%)	18 (55%)	3 (10%)	12 (57%)	10 (12%)	37 (54%)

Note: This table is based on the full follow-up interview sample (n = 150).

H = homelessness, which includes respondents who responded “yes” to the questions explicitly asking about any youth homelessness, including those who reported both homelessness and couch surfing; C-o = couch surfing only, which includes respondents who responded “yes” to youth couch surfing and “no” to youth homelessness. Safe/normative/stably housed experiences that were interpreted as couch surfing included situations such as staying with friends or relatives recreationally or traveling for recreation or work while having access to a safe and stable living arrangement.

Additionally, among those reporting explicit homelessness, we found substantial overlap of couch surfing. Specifically, 64.7% of 18- to 25-year-old respondents self-reporting homelessness also reported couch surfing.

The combined incidence rates (shares of respondents reporting first-time youth homelessness and/or couch surfing cases in the last 12 months) were 3.0% for respondents reporting experiences of anyone aged 13–17 in their households, 11.3% for respondents reporting experiences of anyone aged 18–25 in their households, and 8.3% for respondents aged 18–25 self-reporting experiences. These were about half as high as the corresponding prevalence rates.

Follow-up interview results showing different types of identified inclusion errors for different reporting groups are presented in Table 2. Inclusion errors comprised reports of experiences while accompanied by a parent or guardian (for minors only), misreporting (or misunderstanding) regarding the age or time frame of interest, or, most commonly, reporting apparently safe and normative experiences that did not involve a lack of access to stable housing as couch surfing. The inclusion error rates were substantially lower among respondents reporting explicit homelessness (12%) than they were for respondents who reported couch surfing only (54%). Many couch surfing-only experiences involved normative situations with access to safe and stable housing and needed to be deducted. Inclusion error rates between the three quota groups were fairly similar, although we found a somewhat higher error rate among respondents reporting explicit homelessness for 13- to 17-year-olds than with respondents reporting on 18- to 25-year-olds. Given the small subsamples and general consistency, we applied the inclusion error rates of the overall follow-up interview sample to the final prevalence calculations, reducing the estimates for explicitly reported homelessness by 12% and the estimates for couch surfing only by 54%.

Adjusting for inclusion errors, we estimate that approximately 4.3% of households with 13- to 17-year-olds, and 12.5% of households with 18- to 25-year-olds, had people in those age groups that experienced some form of explicit homelessness and/or couch surfing without safe and stable housing in the last 12 months. Additionally, 9.7% of 18- to 25-year-olds self-reported



**Table 3**  
Twelve-month national prevalence estimates adjusting for inclusion errors

Explicit homelessness	Age group	Initial rate	95% Confidence intervals	Final estimate, % (12% inclusion error reduction)	Final estimate, N (12% inclusion error reduction)
Household	13–17	3.4%	3.0%–3.8%	3.0%	.46 million
Household	18–25	6.7%	6.3%–7.2%	5.9%	1.13 million
Population	18–25	5.9%	5.2%–6.6%	5.2%	1.87 million
Couch surfing only	Age group	Initial rate	95% Confidence intervals	Final estimate, % (54% inclusion error reduction)	Final estimate, N (54% inclusion error reduction)
Household	13–17	2.8%	2.5%–3.1%	1.3%	.20 million
Household	18–25	14.3%	13.7%–14.9%	6.6%	1.27 million
Population	18–25	9.7%	8.9%–10.5%	4.5%	1.61 million
Overall	Age group	Initial rate	95% Confidence intervals	Final estimate, % (sum of above prevalence types with inclusion error reductions)	Final estimate, N (sum of above prevalence types with inclusion error reductions)
Household	13–17	5.3%	4.9%–5.8%	4.3%	.66 million
Household	18–25	21.0%	20.3%–21.7%	12.5%	2.40 million
Population	18–25	15.6%	14.6%–16.6%	9.7%	3.48 million

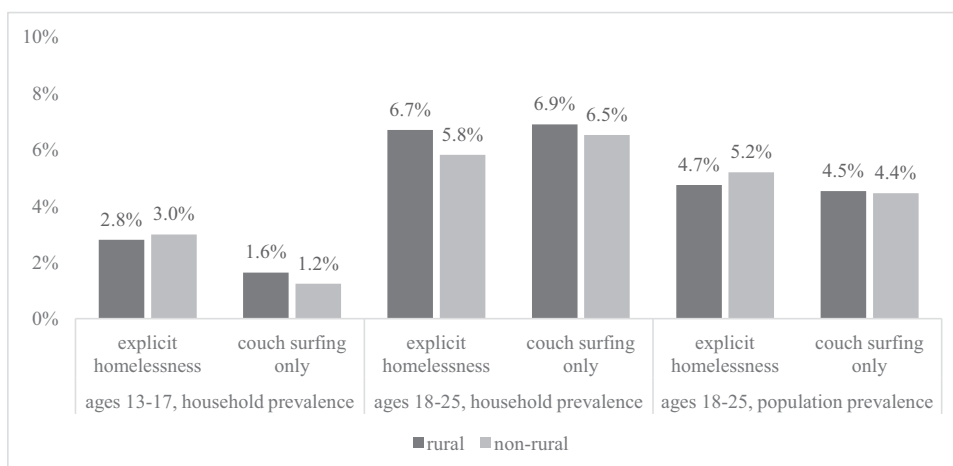
Notes: For ages 13–17, the “explicit homelessness” estimates include experiences of having ran away and been asked to leave; for both ages 13–17 and 18–25 it includes “yes” responses to the explicit question on homelessness experiences. The revised estimates for “explicit” use a smaller deduction (12%) because this was the inclusion error rate calculated for this subgroup of experiences based on follow-up interviews. The revised estimates for “couch surfing only” use a larger deduction (54%) because this was the inclusion error rate calculated for this subgroup of experiences, which included a high proportion of experiences that were not couch surfing as a form of homelessness—that is, the young people did not lack a safe and stable place to stay.

homelessness and/or couch surfing in the last 12 months. Converted to counts based on ACS data, these estimates translate to approximately 660,000 households with 13- to 17-year-olds, 2.4 million households with 18- to 25-year-olds, and 3.5 million youth aged 18–25. Table 3 provides these results and segmented estimates for explicit homelessness and couch surfing only.

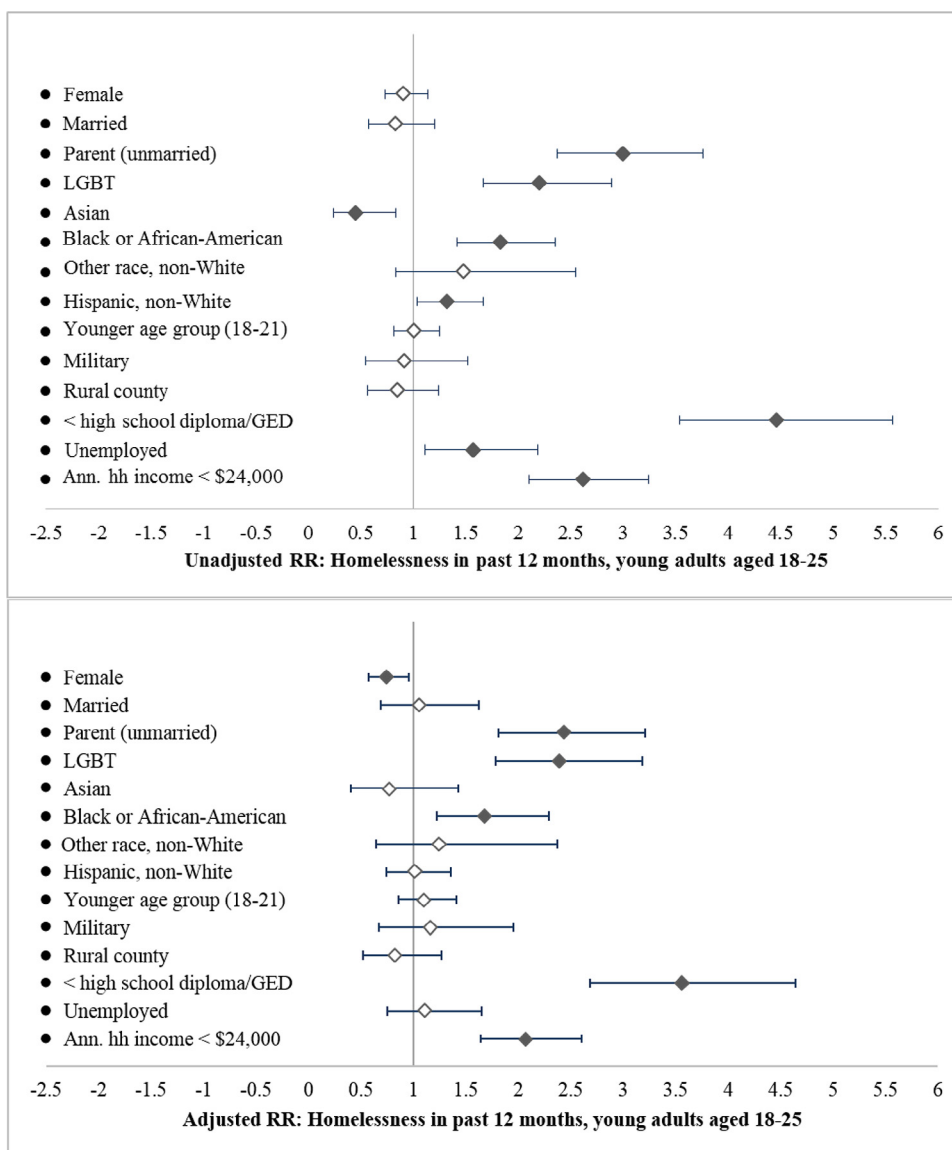
For the second research question, we examined whether prevalence rates for rural counties differed from those of nonrural counties, and we investigated the correlations between other covariates and homelessness. Figure 1 displays the explicitly reported homelessness and couch surfing-only household prevalence rates (adjusting for inclusion errors) in rural and nonrural counties for ages 13–17 and 18–25 and the population prevalence rates for 18- to 25-year-olds. In all reporting categories, the percentage of respondents in mostly rural counties reporting youth homelessness was nearly equal to mostly

urban counties. In every case, chi-square goodness of fit tests revealed no significant between-group differences ( $p > .05$ ).

Results of logistic regression indicated that the unadjusted relative risk of experiencing homelessness (denoted here as RR, with 95% CI) was significantly greater for young people who reported the following characteristics: unmarried with children of their own (RR = 3.00; 2.37–3.76); lesbian, gay, bisexual, or transgender (LGBT; RR = 2.20; 1.67–2.89); black or African-American (RR = 1.83; 1.42–2.35); had not completed high school or a general education diploma (RR = 4.46; 3.54–5.57); and annual household income of less than \$24,000 (RR = 2.62; 2.10–3.24). Young people of Hispanic origin also had higher risk of experiencing homelessness (RR = 1.32; 1.04–1.67), but the relationship was no longer statistically significant once the model controlled for education and parenthood. Figure 2 includes forest plots depicting relative risk (unadjusted and adjusted RRs) for specific demographic groups.



**Figure 1.** Prevalence rates in rural versus nonrural counties. Notes: The presented prevalence rates include adjustments for inclusion errors. Rural versus non-rural distinctions are based on U.S. Census data providing the number and percentage of people in each county living in rural and urban areas. Mostly rural means that at least 50% of the county's population lives in rural areas as classified by the U.S. Census Bureau.



**Figure 2.** Logistic regressions for youth homelessness (aged 18–25, self-report). Note: The dependent variable is explicitly reported homelessness (excluding couch surfing only). Unadjusted relative risks (RRs) express associations between homelessness and one other variable only (e.g., female). Adjusted RRs present variable-wise RRs having controlled for all other variables in the model. Diamonds represent the RR while the extending lines on either side of the diamonds represent corresponding 95% CIs. A filled diamond indicates that the RR is statistically significant ( $p < .05$ ). An RR of 1.0 means that risk is even between two groups. Each RR represents the difference in risk of having experienced homelessness between the group described by the variable (e.g., females) and its opposite reference group (e.g., males). The reference group for the “younger age group (18–21)” is respondents aged 22–25. Race variables compare to all others, of which the majority are White non-Hispanic (e.g., for Black or African-American, the reference group is all youth who were not Black or African-American). For the unemployed variable, the reference group is all youth who were not unemployed, including those who were employed or who were not in the labor force. Parent (unmarried) = the youth was an unmarried parent; Ann. hh income = annual household income.

**Discussion**

This study produced the first national estimates of 12-month prevalence of youth homelessness in the U.S. for ages 13–25. Although they encompass a spectrum of experiences, our prevalence estimates imply a much broader national challenge than do point-in-time counts or public schools data by themselves. If the 2016 Annual Homeless Assessment Report numbers of 3,916 unaccompanied minors and 41,662 youth aged 18–24 [23], based on nationally aggregated point-in-time counts of youth

(including parenting youth), were to be converted to national prevalence rates, these would reflect percentages of less than .02% of 13- to 17-year-olds and .14% of 18- to 24-year-olds on a specific night. Apart from the focus that point-in-time counts have on certain types of homelessness (unsheltered and in shelters or transitional housing), substantial differences are likely due to the facts that our survey captures 12-month prevalence and uses a population-based sampling approach to study a largely hidden and dynamic phenomenon. Our estimates for adolescents also significantly exceed the national public schools count of

unaccompanied students (95,032 in the 2014–15 school year [14]), conceivably because a representative survey approach does not depend on formal reports or school identification of homelessness.

Looking to other representative surveys—only available for adolescents—our estimates are more similar. For example, Ringwalt et al. found a 5.0% 12-month prevalence rate of homelessness among 12- to 17-year-olds in 1992–1993, although this included self-reports (population prevalence) and both accompanied and unaccompanied homelessness [9]. More recently, local and state estimates of prevalence of unaccompanied homelessness among high school students from representative school-based surveys have ranged from 2.2% to 2.9%, although these were based on a stricter measure of unaccompanied homelessness: typically sleeping somewhere other than home without a parent or guardian over the last month [10].

Nearly two thirds of youth who reported explicit homelessness also reported couch surfing over the last 12 months. This underscores the fluidity of young people's arrangements over time. Many youth do not fit squarely into any single type of homelessness experience. Still, a sizable share of the overall prevalence rates also involved couch surfing only without a safe and stable living arrangement. These experiences likely include a wide range of degrees of vulnerability (from lower-risk experiences of leveraging social networks during periods of housing instability to high-risk or exploitative arrangements) [15,24]. Additionally, some couch surfing could function as a precursor to more entrenched homelessness [25]. Given these complexities, assessments of youths' circumstances beyond their sleeping arrangement at a given time are important to determining their levels of risk and service needs.

Prior to this study, little was known about how the prevalence of youth homelessness in rural areas compared with nonrural areas. Our results indicate that youth homelessness is equally prevalent in both areas. Tailored policies and programs to address the unique circumstances of youth homelessness in rural communities—such as a lack of service infrastructure and lower visibility due to absence of urban magnet spots that attract youth—may be needed.

Our findings reinforce growing evidence on the heightened risk of experiencing homelessness among LGBT youth [26,27]. Disproportionality of homelessness experiences among black youth mirrors racial disparities documented elsewhere, for example, school suspensions, juvenile justice involvement and sentencing, and foster care placements [28,29]. Furthermore, although Hispanic youth were at higher risk than non-Hispanic youth of experiencing homelessness (and comprised 34% of 18- to 25-year-olds reporting homelessness), only 19% of youth served by federally funded runaway and homeless youth programs in FY 2014 were Hispanic [30].

One of the strongest risk correlates for homelessness was a lack of a high school diploma or GED. Although we cannot make causal inferences, this finding reinforces the extent to which education, and underlying factors that support educational attainment, might protect youth from becoming homeless. Young parents were also at high risk for homelessness relative to their nonparenting peers, suggesting that more attention should be paid to the relationship between early parenthood and homelessness. The findings also indicate a marked need for coordination among youth and family homelessness service providers, as well as interventions designed with the unique needs of young parents and their children in mind.

Both the scale of youth homelessness experiences (represented by our 12-month prevalence estimates) and the extent of new cases over a 12-month period (represented by our incidence estimates), reinforce the extent to which prevention and early intervention are needed. Downstream interventions to help currently homeless youth gain stable housing and positive transitions to adulthood are vital but insufficient to ending youth homelessness. The extant literature has identified key entry points for advancing prevention, such as with family interventions, school dropout prevention, public systems including child welfare and justice systems, and affordable and subsidized housing [31,32].

A particular strength of this study lies in its methodology, which is replicable and cost-efficient, given that it builds on existing sampling and survey infrastructure and does not require on-the-ground data collection. This enables the option of repeated national estimates over time to track progress toward the Federal Government's goal of ending youth homelessness [33]. However, some limitations of the study should be kept in mind when interpreting the results and considering enhancements of future national estimates.

First, because Gallup's DTS surveys adults, we relied on third-party household reports of experiences of individuals aged 13–17, which could have been influenced by social desirability and recall biases. Second, only household prevalence estimates could be generated for ages 13–17 because the survey module asked about the experiences of any youth in the household, not each 13- to 17-year-old who lived there. To the extent that more than one 13- to 17-year-old in some households had experienced homelessness, this might have resulted in a more conservative estimate of the population size. Conversely, reporting households could have functioned as either “sending” households (from which youth left into homelessness) or “receiving” households (where youth stayed during or after homelessness), and this could contribute to a degree of inflation. Third, we found and corrected for a large inclusion error rate of 54% for respondents reporting couch surfing only, and a much smaller inclusion error rate of 12% for explicitly reported homelessness. A more detailed homelessness and housing module would allow for improved precision of initial prevalence estimates (i.e., fewer inclusion errors), particularly in terms of capturing forms of couch surfing that reflect homelessness. This would be preferable to post hoc deductions based on estimated inclusion errors from a smaller subsample. Finally, sampling biases were possible if youth experiencing homelessness were less likely to have phones or respond to a phone-based survey than their stably housed peers. Yet, this approach is likely preferable to sampling based on mailing or visiting homes for reaching unstably housed youth, and research suggests that many homeless youth are technology-connected [34]. Nonetheless, this survey likely yields underestimates of homelessness to the extent that it misses young people who lack working cell phones and have been totally disconnected from households that could report on their experiences.

Although individual experiences vary, homelessness and housing instability clearly have adverse consequences for young people and their futures. This effort demonstrates the feasibility of estimating national prevalence and incidence of youth homelessness using a cost-efficient methodology with potential for enhancement and replication to track progress and target solutions to preventing and ending this hidden problem. Our findings reveal that the challenge involves a scale that necessitates greater coordination and resourcing of multiple systems and programs—behavioral and physical health, child welfare,

education, employment, housing, justice, and outreach—at local, state, and federal levels to drive these numbers toward zero.

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## References

- [1] Medlow S, Klineberg E, Steinbeck K. The health diagnoses of homeless adolescents: A systematic review of the literature. *J Adolesc* 2014;37:531–42.
- [2] Hodgson KJ, Shelton KH, van den Bree MB, Los FJ. Psychopathology in young people experiencing homelessness: A systematic review. *Am J Public Health* 2013;103:24–37.
- [3] Perlman S, Willard J, Herbers JE, et al. Youth homelessness: Prevalence and mental health correlates. *J Soc Social Work Res* 2014;5:361–77.
- [4] Heerde JA, Hemphill SA, Scholes-Balog KE. Fighting for survival: A systematic review of physically violent behavior perpetrated and experienced by homeless young people. *Aggress Violent Behav* 2014;19:50–66.
- [5] Greene JM, Ringwalt CL. Pregnancy among three national samples of runaway and homeless youth. *J Adolesc Health* 1998;23:370–7.
- [6] Greene JM, Ennett ST, Ringwalt CL. Substance use among runaway and homeless youth in three national samples. *Am J Public Health* 1997;87:229–35.
- [7] Auerswald CL, Lin JS, Parriott A. Six-year mortality in a street-recruited cohort of homeless youth in San Francisco, California. *PeerJ* 2016;4:e1909.
- [8] US Administration for Children & Families. Definitions of homelessness for federal program serving children, youth, and families. ACF website. Available at: [https://www.acf.hhs.gov/sites/default/files/ecd/homelessness\\_definition.pdf](https://www.acf.hhs.gov/sites/default/files/ecd/homelessness_definition.pdf). Updated October 28, 2016. Accessed August 1, 2017.
- [9] Ringwalt CL, Greene JM, Robertson M, McPheeters M. The prevalence of homelessness among adolescents in the United States. *Am J of Public Health* 1998;88:1325–9.
- [10] Cutuli JJ, Steinway C, Perlman S, et al. Youth homelessness: Prevalence and associations with weight in three regions. *Health Soc Work* 2015;40:316–24. doi:10.1093/hsw/hlv065.
- [11] 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;18:1015–34. doi:10.1080/13676261.2015.1020930.
- [12] Greene JM, Sanchez R, Harris J, et al. Incidence and prevalence of homeless and runaway youth. Available at: <https://www.acf.hhs.gov/opre/resource/incidence-and-prevalence-of-homeless-and-runaway-youth>. Published May 9, 2003. Accessed September 15, 2017.
- [13] Auerswald C, Lin J, Petry L, Hyatt S. Hidden in plain sight: An assessment of youth inclusion in point-in-time counts of California's unsheltered homeless population. Sacramento, CA: California Homeless Youth Project; 2013.
- [14] National Center for Homeless Education. Federal data summary: School years 2012–13 to 2014–15: Education for homeless children and youth. Washington, DC: US Department of Education; 2016.
- [15] McLoughlin PJ. Couch surfing on the margins: the reliance on temporary living arrangements as a form of homelessness amongst school-aged home leavers. *J Youth Stud* 2013;16:521–45.
- [16] Kushel MB, Gupta R, Gee L, Haas JS. Housing instability and food insecurity as barriers to health care among low-income Americans. *J Gen Intern Med* 2006;21:71–7. doi:10.1111/j.1525-1497.2005.00278.x.
- [17] Gallup, Inc. Gallup daily methodology. New York, NY: Gallup, Inc.; 2016.
- [18] Keeter S, Hatley N, Kennedy C, Lau A. What low response rates mean for telephone surveys. Washington, DC: Pew Research Center; 2017.
- [19] NVivo qualitative data analysis Software; QSR International Pty Ltd. Version 11, 2015.
- [20] Ruggles S, Alexander JT, Genadek K, et al. Integrated public use microdata series: Version 5.0. Minneapolis, MN: Minnesota Population Center; 2010. [Machine-readable database], [producer and distributor].
- [21] Intercooled STATA (for Windows) [computer program]. Version 14.0. College Station, TX: StataCorp; 2015.
- [22] Grimes DA, Schulz KF. Making sense of odds and odds ratios. *Obstet Gynecol* 2008;111(2, Part 1):423–6.
- [23] U.S. Department of Housing and Urban Development. Homelessness in the United States: The 2016 Annual Homeless Assessment Report to Congress. Available at: <https://www.hudexchange.info/resources/documents/2016-AHAR-Part-1.pdf> Published November 2016. Accessed September 15, 2017.
- [24] Curry SR, Morton M, Matjasko JL, et al. Youth homelessness and vulnerability: How does couch surfing fit? *Am J Community Psychol* 2017;60:17–24.
- [25] Clarke A. The prevalence of rough sleeping and sofa surfing amongst young people in the UK. *Social Inclusion* 2016;4:60–72.
- [26] Van Leeuwen JM, Boyle S, Salomonsen-Sautel S, Baker DN. Lesbian, gay, and bisexual homeless youth: An eight-city public health perspective. *Child Welfare* 2006;85:151–70.
- [27] Whitbeck L, Lazoritz MW, Crawford D, Hautala D. Street outreach program: Data collection study final report. Available at: [https://www.acf.hhs.gov/sites/default/files/fysb/data\\_collection\\_study\\_final\\_report\\_street\\_outreach\\_program.pdf](https://www.acf.hhs.gov/sites/default/files/fysb/data_collection_study_final_report_street_outreach_program.pdf). Published April 2016. Accessed September 15, 2017.
- [28] Mendez LMR, Knoff HM. Who gets suspended from school and why: A demographic analysis of schools and disciplinary infractions in a large school district. *Educ Treat Children* 2003;26:30–51.
- [29] Wildeman C, Emanuel N. Cumulative risks of foster care placement by age 18 for US children, 2000–2011. *PLoS ONE* 2014;9:e92785.
- [30] Administration for Children & Families. NEO-RHYMIS. Washington, DC: Author; 2015. Available at: <https://extranet.acf.hhs.gov/rhymis/>. Analysis by authors. Accessed August 30, 2017.
- [31] Aratani Y. Homeless children and youth: Causes and consequences. Available at: [http://www.nccp.org/publications/pdf/text\\_888.pdf](http://www.nccp.org/publications/pdf/text_888.pdf). Published September 2009. Accessed September 15, 2017.
- [32] Toro PA, Dworsky A, Fowler PJ. Homeless youth in the United States: Recent research findings and intervention approaches. National symposium on homelessness research. Available at: <https://aspe.hhs.gov/report/toward-understanding-homelessness-2007-national-symposium-homelessness-research-homeless-youth-united-states-recent-research-findings-and-intervention-approaches> Published March 2007. Accessed September 15, 2017.
- [33] US Interagency Council on Homelessness. Opening doors: Federal strategic plan to prevent and end homelessness: As amended in 2015. Available at: [https://www.usich.gov/resources/uploads/asset\\_library/USICH\\_OpeningDoors\\_Amendment2015\\_FINAL.pdf](https://www.usich.gov/resources/uploads/asset_library/USICH_OpeningDoors_Amendment2015_FINAL.pdf). Published June 2015. Accessed September 15, 2017.
- [34] Rice E, Lee A, Taitt S. Cell phone use among homeless youth: potential for new health interventions and research. *J Urban Health* 2011;88:1175–82.