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Youth Homelessness: Prevalence and mental health correlates

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ABSTRACT National data suggest the rate of youth homelessness has been increasing over the last several years. However, estimates of the true prevalence of youth homelessness vary greatly based on counting method and definitions of homelessness. The purpose of the present study is to demonstrate how the Youth Risk Behavior Survey (YRBS) could be used to understand the prevalence of youth homelessness, characteristics of homeless experiences, and how these experiences relate to mental health problems among youth. Findings demonstrate the number of youth identified as homeless by the YRBS are considerably higher than the number identified by traditional counting methods. Furthermore, youth experiencing homelessness reported disproportionately higher rates of mental health problems than their housed peers. Implications for practice, policy and future research are discussed.

KEY WORDS: youth homelessness, unaccompanied youth, homeless youth, mental health, suicidal ideation

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Nearly 1.2 million school-aged children and youth experienced homelessness in 2012 (National Center for Homeless Education, 2013). Approximately 25% of these youth were students enrolled in public high schools—representing a one-year increase of 8% in the number of high school age students experiencing homelessness. This increased prevalence is troubling because youth experiencing homelessness are more likely than their housed peers to evidence poor developmental outcomes and well-being. However, prevalence estimates of youth homelessness vary widely based on differing definitions of what constitutes homeless status for children and youth (Pergamit et al., 2013), and relatively little is known about the nature of the risks associated with youth homelessness. This

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study explored anonymous, school-based surveying as a novel method for estimating youth homelessness within a major metropolitan school district, and tested for associations between homelessness and mental health problems.

Assessing the Number of Youth Experiencing Homelessness

In response to the growing number of youth experiencing homelessness, and the risks associated with these experiences, the United States Interagency Council on Homelessness (USICH) recently published the *Framework to End Youth Homelessness* (USICH, 2013). This report emphasized that little is known about the prevalence and experiences of youth who are homeless. Moreover the report offered a "data strategy," which includes using current methods of counting, and called for new data collection methods.

Currently two primary methods are available for assessing the number of youth experiencing homelessness: the Point-in-Time Count (PIT) and counts based on youth served under the McKinney—Vento legislation. The PIT is an annual count of homeless individuals and families conducted on a specific night in January. The PIT count is based on the U.S. Department of Housing and Urban Development's (HUD) definition of homelessness, which includes individuals living on the streets/places not fit for human habitation, staying in emergency/transitional housing, with ongoing residential instability, and/or fleeing certain contexts of danger such as domestic violence or stalking (HUD Homeless Emergency Assistance and Rapid Transition to Housing, 2011). Typically the PIT count is conducted by teams of housing staff and volunteers, and occurs in the late evening/very early morning hours. The most recent PIT count in a large, urban municipality in the Northeast included a focus on youth; this count identified 31 unaccompanied youth (individuals younger than 18 years) experiencing homelessness in 2012 (all of whom were in shelters). This count marked an increase from 17 sheltered youth identified by the PIT count in 2011, which had a less explicit emphasis on youth.

The second method for estimating the prevalence of youth homelessness is through local education agencies (LEAs). LEAs receive funds through the McKinney—Vento Homeless Education Act of 1987 (Pub. L. 100-77) to identify and serve youth who meet the Department of Education's (DOE) definition of homelessness. The DOE definition of homelessness is considerably broader than the definition used by HUD. In addition to including children and youth living on the streets or places not fit for human habitation and emergency or transitional housing, the DOE definition includes youth who are sharing the housing of other persons because of reasons related to loss of housing or economic hardship, as well as children abandoned in hospitals or awaiting foster care placement (42 USC § 11434a [2][B]). In addition, the DOE count includes youth younger than 18 years old. Therefore, counts of youth experiencing homelessness using the DOE defini-

tion are consistently and remarkably higher than counts using the HUD definition (Pergamit et al., 2013; USICH, 2013).

Because these two counting methods differ in approach and definition, they lead to an inconsistent understanding and, quite likely, an underestimate of the true number of youth affected by homelessness. One study found most youth experiencing homelessness lived doubled-up with family or friends (Hallett, 2010). Although the DOE estimates are more likely to include youth living doubled-up, this count represents only the youth who come to the attention of school district personnel. Some youth might be reluctant to identify themselves as homeless due to real or perceived stigma. Moreover, youth might fear that if they identify as homeless, they will be reported to the child welfare or juvenile justice systems (Pergamit et al., 2013). Thus, despite an increasing awareness of the importance of knowing how many youth experience homelessness for the strategic allocation of resources and to inform services, little is known about this vulnerable population.

Risks Among Youth Experiencing Homelessness

The limited research base on high school age youth living on the streets or in shelter has suggested these youth evidence a greater frequency and greater severity of mental health problems than their housed peers. Diagnoses more common among this population include depression, anxiety, and/or posttraumatic stress disorder (PTSD; Edidin, Ganim, Hunter, & Karnik, 2012; Merscham, Van Leeuwen, & McGuire, 2009; Toro, Dworsky, & Fowler, 2007). Merscham and colleagues (2009) found that nearly half of youth experiencing homelessness had been diagnosed with a mood disorder. Further, youth experiencing homelessness are more likely than their housed peers to report suicidal ideation and suicide attempts (Edidin et al., 2012; Merscham et al., 2009; Toro et al. 2007). A literature review by Edidin et al. (2012) reported that between 40% and 80% of youth experiencing homelessness had suicidal ideation and between 23% and 67% had made at least one suicide attempt. Although suicidality and mental health problems are serious concerns during adolescence, these issues also predict failure over time in other important areas such as academics (e.g., Masten et al., 2005). In this way, problems can compound or spread as the individual develops into adulthood, affecting his or her ability to succeed in life.

New Strategies for Understanding the Prevalence and Experiences of Homeless Youth

Existing strategies for estimating the prevalence and risks of youth homelessness are limited, warranting innovation. From a public health perspective, understanding the prevalence and characteristics of the individuals affected by a risk is the most fundamental element to formulating an intervention strategy (Buka & Lipsett, 1994). A developmental epidemiological approach emphasizes the use of public

health epidemiological methods for understanding the prevalence of events coupled with knowledge from developmental science that risks can manifest differently across developmental stages (Buka & Lipsett, 1994). Methods of assessing the prevalence of youth homelessness should be youth-centered. These methods should strategically target locations where youth are likely to be *and* should minimize the stigma associated with identifying as homeless. The Centers for Disease Control and Prevention's (CDC) Youth Risk Behavior Survey (YRBS) is one such method (Pergamit et al., 2013).

Youth Risk Behavior Survey. The YRBS was developed by the CDC in the early 1990s as a means of understanding and addressing the increasing prevalence of youth diagnosed with HIV/AIDS (CDC, 2004). The YRBS specifically targets youth enrolled in high school (Grades 9—12). Since 1991, the YRBS has been conducted biennially at the national, state, and local levels. The survey addresses a range of behaviors related to physical safety, mental health, substance use, and sexual risk-taking. Its sampling methodology (described below) provides the capacity for obtaining a representative sample of high school age students. The YRBS has good reliability (CDC, 2004). Although the validity of the YRBS has not been investigated, the CDC uses practices aimed at increasing the validity of responses, including making all surveys anonymous and having youth answer all questions (i.e., the survey does not include skip patterns).

Assessing youth homelessness through the YRBS. The YRBS represents a unique methodology for addressing limitations associated with the estimates of youth homelessness obtained through the PIT and DOE counts. Data from the survey are considered to be representative of the broader high school population, that is, not just those youth who come to the attention of the homeless system or LEAs. In addition, anonymous reporting coupled with questions that explicitly do not include the word *homeless* are design steps taken to reduce youth's experiences of stigma and concerns of being reported to child welfare or juvenile justice systems. Furthermore, because the YRBS assesses an array of risk behaviors, it can characterize the experiences of youth who are homeless beyond those who come to the attention of LEA's and the homeless housing systems. This broader characterization of youth homelessness is particularly notable because prior research on youth experiencing homelessness has focused on youth living in shelters or youth living on the street, and has disproportionately overlooked youth living doubled up with family or friends (Edidin et al., 2012; Merscham et al., 2009; Toro et al., 2007). Including youth living doubled-up can facilitate social workers' efforts to strategically guide and inform services targeting this population.

In 2009, the county and school district of Philadelphia collaborated to add three housing questions to the municipality's YRBS. The answers to these questions provide an estimate of the number of homeless high school students enrolled in the district and information on the risk experiences of these youth.

The purpose of the present study was to demonstrate how the YRBS could be used to understand of the prevalence of youth homelessness, characteristics of homeless experiences, and how these experiences relate to mental health problems among youth. The study addressed three primary research questions:

1. What is the prevalence of youth homelessness in a large urban school district?
2. What are the demographics, mental health symptoms, and characteristics of homeless experiences among youth who report homelessness?
3. To what extent are experiences of youth homelessness associated with symptoms of mental health problems?

Method

This study was based on secondary data analysis of the 2011 Philadelphia YRBS conducted by the CDC. The following provides an overview of the methodology used by the CDC to conduct the YRBS.

Participants

The CDC used a two-stage cluster sample design to select participants. During the first stage, schools were selected based on enrollment size (proportional to the overall school district). During the second stage, a representative sample of complete classes within these schools was selected for participation. According to guidelines set by the CDC, local surveys (such as the YRBS) must meet three criteria for using weighted responses: (a) have a scientifically selected sample; (b) have appropriate documentation; and (c) have a response rate ≥ 60%. In 2011, the YRBS met each of these criteria, and thus, it was possible to use the weighted response set as well as to consider these data representative of the more than 43,000 youth enrolled in the district's public high schools. The weighted data are intended to adjust for nonresponse, and are based on race, age, and gender of students enrolled in schools in the geographic area from which the sample was drawn.

In 2011, a sample of 1,539 youth enrolled in Grades 9 thru 12 of the district's public high schools participated in the YRBS. Passive parental consent was obtained. Less than half of the sample (46%) was male. The majority of students self-identified as a minority race/ethnicity: 52% African American, 14% biracial, 12% Asian, and 7% were Hispanic. Approximately 36% were 15 years or younger; 46% were ages 16 to 17 years; and the remaining respondents were 18 years or older. The sample was divided evenly across Grades 9 thru 12.

Procedure

The YRBS was administered as a paper-pencil survey during one class period in the spring of 2011. The survey was anonymous and collected no identifying infor-

mation. In addition, the YRBS is structured so that youth can choose not to respond to any given question.

Measures

Housing status. The primary independent variable for this study was *youth housing status*. This variable was assessed based on a survey item inquiring where youth typically slept at night in the month prior to completing the survey. The response set included the following eight options: (a) *Typically at home with a parent/guardian*; (b) *Typically with a parent/guardian at a friend's or relative's house*; (c) *Typically without a parent/guardian at a friend's or relative's house*; (d) *In a supervised shelter with a parent/guardian*; (e) *In a supervised shelter without a parent/guardian*; (f) *In a hotel/motel, car, park, campground, or other public place with a parent/guardian*; (g) *In a hotel/motel, car, park, campground, or other public place without a parent/guardian*; or (h) *Other*. Responses to this question were used to determine if each youth was categorized as *housed*, *homeless with family*, or *unaccompanied youth*. If the youth reported that she or he typically slept at home with his or her parents, the youth was identified as being housed (i.e., not homeless). If the youth reported that she or he typically slept somewhere not at home with a parent/guardian, the youth was identified as homeless with a parent. If the youth reported that she or he typically slept somewhere other than home without a parent/guardian, the youth was identified as an unaccompanied youth (i.e., youth who was homeless without family).

Mental health symptoms. Presence of mental health problems was assessed based on four YRBS questions regarding the presence of depressive symptoms (*feeling sad/hopeless for two or more weeks and stopped engaging in usual activities*), seriously considering suicide, attempting suicide, and purposefully engaging in self-injurious behavior. For each indicator, a response of *yes* was classified as scoring positive for the behavior. These questions provided four dichotomous indicators of mental health problems.

Analyses

Descriptive statistics addressed the first two research questions (i.e., What is the prevalence of youth homelessness in a large urban school district? What are the demographics, mental health symptoms, and characteristics of homeless experiences among youth who report homelessness?). For the first research question, we calculated frequencies and percentages for two categories of youth: those who were homeless with a parent, and those who were unaccompanied youth. For the second research question, we conducted frequency analyses to examine the demographic characteristics and mental health symptoms of youth who were housed as compared with youth who were homeless with or without parent. In addition, we examined the typical sleeping arrangements of youth who were homeless with parent as compared with unaccompanied youth.

The third research question (To what extent are experiences of youth homelessness associated with symptoms of mental health problems?) was addressed using a series of multiple logistic regression analyses to evaluate the unique influence of homelessness on mental health, and controlling for age, race/ethnicity, and gender. These analyses resulted in odds ratios that quantify the magnitude of risk associated with each independent variable. The odds-ratio is more easily interpreted as the degree of risk exerted by the independent variables (i.e., homeless experiences) on each dependent variable (i.e., mental health symptom).

Results

Prevalence of Youth Homelessness

Overall, 6% of youth reported typically sleeping away from home. Of these youth, 56% slept away from home with a parent/guardian whereas 44% were unaccompanied. These percentages indicate that 3.5% of youth in the YRBS cohort reported being homeless with a parent whereas 2.7% reported being unaccompanied.

Characteristics of Youth Experiencing Homelessness

Descriptive statistics demonstrate that youth who were homeless with their parents were disproportionately more likely to be 15 years or younger compared with unaccompanied youth (44.4% vs. 27.2%). At the same time, unaccompanied youth were more likely to be 18 years or older as compared with youth who were homeless with their parents (30.5% vs. 16.5%). Youth who were homeless with their parents were more likely to identify as Asian or biracial than unaccompanied youth, whereas unaccompanied youth were more likely to identify as Hispanic than youth who were homeless with their parents.

Overall, 83.9% of youth who were homeless reported typically sleeping at a friend's or relative's house, 14.1% reported sleeping in a shelter, and only 2% reported sleeping in a public place. Youth who were homeless with their parents reported a slightly higher rate of sleeping at a friend's or relative's house (86.6% compared with 80.5% than unaccompanied youth) and unaccompanied youth reported a slightly higher rate of sleeping in a shelter (15.1% compared with 13.4% youth who were homeless with family). None of the youth who were homeless with their parents reported sleeping in a public space.

Youth Homelessness and Mental Health Symptoms

Table 1 reports the prevalence and risk for mental health problems associated with housing status. Frequency distributions demonstrate that unaccompanied youth were more likely than their housed or homeless-with-parents peers to report having been sad for 2 weeks or more in the prior year. Similarly, unaccompanied youth reported higher rates of self-injurious behaviors. As compared with

Table 1

Demographics and Mental Health Symptoms Among Housed Youth Who Were Homeless With Parents; and Unaccompanied Youth

	Unweighted Sample Size	Weighted Sample Size[a]	Housed (%/n)	Homeless with Family (%/n)	Unaccompanied Youth (%/n)
Gender (boy)	1,247	34,404	46.9 15,177	55.5 659	47.5 517
Race/ethnicity					
White	1,252	34,560	15.0 4,851	5.3 64	6.8 64
African American			55.9 18,100	67.7 823	56.4 535
Hispanic			7.1 2,292	2.3 28	13.0 123
Asian			6.2 2,010	5.5 67	0
Biracial			11.6 3,768	15.7 191	5.9 56
Age					
≤15 years	1,252	34,404	36.4 11,783	44.4 539	27.2 258
16–17 years			48.2 15,626	39.1 475	39.9
≥18			15.3 4,965	16.5 200	30.5 289
Sad for two or more weeks in the last year	1,221	33,403	31.3 9,874	32.2 374	45.4 333
Considered suicide in the last 12 months	1,247	34,137	14.4 4,624	21.7 251	17.4 145
Attempted suicide one or more times in the last 12 months	994	27,192	9.7 2,482	24.3 243	17.6 119
Hurt self on purpose one or more times in the last 12 months	1,250	34,324	14.1 4,534	19.7 233	39.1 371

Note. [a] Response rates for each variable exceeded 70%. As such, percentages were calculated using the weighted samples.

Table 2
Odds Ratios and Probability Levels for the Independent Influence of Being Homeless with a Parent or Unaccompanied Youth on Mental Health Problems

	Sad for 2 or more weeks in the last year	Considered suicide in the last 12 months	Attempted suicide 1 or more times in the last 12 months	Hurt self on purpose 1 or more times in the last 12 months
Demographics				
Gender (Boys)	.45****	.61****	.63****	.61****
Age: 16 years	1.23****	.80****	1.13***	.77****
Age: 18 years	1.06	0.57****	0.67****	0.41****
African American	0.98	0.99	1.66****	0.97
Hispanic	1.47****	1.62****	2.10****	1.95****
Asian	0.84***	0.67****	0.73****	0.74****
Biracial	1.52****	2.31****	2.83****	1.71****
Housing status				
Homeless with parents	1.04	1.67****	3.12****	1.63****
Unaccompanied youth	1.93****	1.45****	1.33*	4.92****
Final sample size	1,209	1,237	989	1,240
–2 Log Likelihood	40,131	27,536	17,366	27,500
R-Square	.06	.05	.05	.06

* $p < .05$; ** $p < .01$; *** $p < .001$; **** $p < .0001$

housed youth, those who were homeless with their parents reported disproportionately higher rates of self-injury, and higher rates of suicidal ideation and attempts than either housed or unaccompanied peers. Unaccompanied youth reported disproportionately higher rates of suicide attempts than housed youth.

Findings from the logistic regression analyses (Table 2) demonstrate that youth who were homeless with parents were 67% more likely to have considered suicide in the prior year, and 3 times as likely to have attempted suicide as their housed peers. Similarly, as compared with their housed peers, unaccompanied youth were almost 2 times more likely to report being sad, 45% more likely to have considered suicide, and almost 5 times as likely to have hurt themselves on purpose on one or more occasions in the prior year.

Discussion

The purpose of this study was to demonstrate the feasibility of using the YRBS to inform the understanding of the prevalence, characteristics, and mental health

problems of youth experiencing homelessness. Just over 6% (n = 2,163) of youth enrolled in the district's public high schools had experienced homelessness in the month prior to completing the YRBS. Over half of these youth were homeless with their parents (n = 1,215) whereas the remaining were unaccompanied (n = 948). The overall rate of youth homelessness based on the YRBS is considerably higher than other estimates from the same geographical region. As compared with the extrapolated 2,163 youth reporting homelessness on the YRBS, the PIT count from the same year found only 17 homeless youth in total and the LEA identified only 733 homeless youth. The more than 2,000 youth identified by the YRBS suggests many youth who are experiencing homelessness remain hidden and might not be receiving needed services.

Considering the vast disparity in these estimates, it is unlikely that the differences arise solely from variations in time frames or definitions of homelessness. More probably, the YRBS estimate underscores the reality that youth experiencing homelessness are unlikely to be located through traditional means of counting. The YRBS housing question used in this study addresses issues of stigma by asking youth where they typically sleep at night rather than asking if they are homeless. In addition, the anonymity of the YRBS should eliminate youth's concerns that disclosing housing status will result in being reported to child protective services or juvenile justice.

By asking youth to identify where they typically sleep at night, the YRBS also has the capacity to identify youth who are typically sleeping in shelter, as well as those who are sleeping doubled-up with family or friends. Data from this study demonstrate that over 80% of youth experiencing homelessness were living doubled-up with relatives, friends, or even strangers—a finding that is consistent with recent DOE estimates as well as other studies of youth homelessness (Hallett, 2010). The DOE estimates indicate that approximately 75% of youth identified by LEAs as qualifying for McKinney—Vento services related to homelessness were living doubled-up (National Center for Homeless Education, 2013). Notably, the number of youth living doubled-up identified by the DOE has increased by more than 140% in the last 10 years as compared with an 8% increase of youth living in shelters. This increase in doubled-up youth warrants efforts to identify this growing segment of homeless youth and ensure their needs are met.

In addition to prevalence rates of youth homelessness, the YRBS offers information regarding mental health problems. Compared with their housed peers, youth who reported experiencing homelessness with and without their parents were more likely to report mental health problems. This finding is consistent with prior research demonstrating that youth experiencing homelessness were more likely than their housed peers to report mental health problems, including suicidal ideation and attempts (Merscham et al., 2009; Toro et al., 2007;). Although, unaccompanied youth reported the highest rates of depressive symptoms (i.e., being sad for

2 weeks or more in the last year), youth who were homeless with their parents reported the highest rates of suicidal ideation and attempts. Discussions with community stakeholders indicated that one possible explanation for these findings is that youth who were homeless with their families could be shouldering great stress and worry for themselves as well as their parents and siblings. In addition, youth experiencing homelessness are more likely than their housed peers to have witnessed or been involved with family violence (Toro et al., 2007). In fact, unaccompanied youth could be "unaccompanied" because they are fleeing family violence or unstable home environments, whereas youth who are homeless with their parents might still be exposed to violence or victimized, and perceive they have few or no way out of the situation (Toro et al., 2007).

It is unlikely that the presence or absence of mental health problems can be accounted for solely by experiences during an episode of homelessness. Instead, as with other domains of functioning (e.g., academic achievement; Cutuli et al., 2014), it is likely that both acute risks (associated with a recent homeless episode) and chronic risks (those associated with poverty more broadly) contribute to emotional and behavioral health. Further, understanding only the contributions of risk factors ignores potentially powerful protective factors that can shield youth from the negative impact of adversities such as homelessness (Cutuli & Herbers, 2014). Competent parenting, self-regulation, and good cognitive functioning, for example, are especially linked to better developmental outcomes among children experiencing risk and adversity in the context of homelessness, or in contexts of poverty more broadly (Herbers & Cutuli, 2014; Buckner, Mezzacappa, & Beardslee, 2003, 2009; Herbers et al., 2012; Masten et al., 2012; Perlman, Cowan, Gewirtz, Haskett, & Drerup, 2012; Perlman, Sheller, Hudson, & Wilson, 2013).

Policy and Practice Implications

Estimating the prevalence of youth homelessness. In early 2013, USICH released a plan calling for the end of youth homelessness by 2020 (USICH, 2013). This plan was predicated on the understanding that even though research has consistently demonstrated a unique set of challenges for youth experiencing homeless—and that strategies for identifying youth experiencing homelessness need to be *youth-centered*—estimates on prevalence and the experiences of these youth remain limited. Without accurate estimates of how many youth experience homelessness, social service providers and educational professionals face significant challenges in acquiring the necessary resources to meet the needs of youth experiencing homelessness. Thus USICH's plan called for a data strategy that could build on the existing reporting methods and explore new methods for understanding youth homelessness. The YRBS represents one such method. To date, these questions have been included in several other cities and states (i.e., Boston, San Francisco, Connecticut, Delaware, and Massachusetts). Sites that have included the housing questions with

the YRBS have consistently found higher rates of youth homelessness in their area than were reported through other counting mechanisms. Therefore, we recommend questions on youth housing status be included in other cities and states as well as in the national YRBS.

Finding and serving youth. Perhaps the most salient finding from this study is that more than 80% of youth who identified as homeless were sleeping doubled-up. This finding has implications both for counting youth and for *serving* youth. Given that homeless youth are less likely to be found on the streets or in shelters, they are also less likely to benefit from services offered through emergency housing or outreach programs. Although the data for this study do not include youth who are homeless and not enrolled in school, these data do indicate that a substantially large number of homeless youth do attend school. Consideration should be given to offering activities and services in schools or other community-based settings where youth are likely to appear. In addition, given that youth might not disclose they are homeless due to stigma, these activities and services should not explicitly target homeless youth but instead be open to the community. Conversations with community stakeholders yielded the recommendation that schools could offer family-based activities during nonschool hours, such as community dinners, to engage youth and their families. Alternatively, community centers could offer after-school activities in addition to having on-site staff available to assist youth and their families with meeting other needs (e.g., food, housing, clothing).

Mental health. Youth experiencing homelessness also reported high rates of mental health problems. McKenzie-Mohr, Coates, and McLeod (2012) argued for trauma-informed interventions for youth experiencing homelessness. Such services would not only respond to the needs of many youth experiencing homelessness, but also serve as primary prevention by addressing the needs of their families and communities (McKenzie-Mohr et al., 2012; Toro et al., 2007). Research also has demonstrated the value and importance of school-based services (Cowan, 2014; Nabors, Proescher, & DeSilva, 2001; Toro et al., 2007). These school-based services would not only address the mental health needs of youth, but could also focus on supporting positive social skills and engaging parents in discussions of nurturing parent-child relationships. Crisis intervention and comprehensive, coordinated care could be made available to youth who present to school personnel or other providers with clinical levels of distress. However, currently no evidence-based interventions are available specifically for youth experiencing homelessness (Herbers & Cutuli, 2014).

Limitations and Future Research

The present study illustrates how the YRBS can be used to develop a more informed understanding of youth homelessness. Although the YRBS advances the

understanding of the prevalence and characteristics of youth experiencing homelessness, the survey is limited in several key ways. First, although the YRBS offers a unique strategy for identifying youth experiencing homelessness, the YRBS is based solely on youth self-reports and limited to youth attending public high schools. Even though estimates of youth homelessness generated from the YRBS are higher than those garnered from other traditional methods of counting, YRBS estimates are still limited by both the youth's interpretation of questions and their responses to the YRBS housing questions as well as the reality that youth experiencing homelessness are disproportionately more likely to have dropped out of school. Second, YRBS data might not be generalizable beyond the specific states, or in this case, localities, from which they are drawn. Data for the present study were from a large, urban municipality in the Northeast United States. Based on other data from this municipality, a high percentage of the student population is eligible for free or reduced cost lunch, most of the students have a minority race/ethnicity status, and the municipality overall has a higher than average rate of homelessness. As such, findings from our study might be generalizable to states or localities with different demographic compositions. Third, data from the YRBS are cross-sectional. As such, it is not possible to draw conclusions about the extent to which experiences of homelessness contribute to the mental health of youth; we can conclude only that homelessness and the mental health of youth are related. Future research should expand the understanding of youth homelessness in the following key ways.

Increasing the understanding of the prevalence of youth homelessness. As noted above, the YRBS does not include youth who are not enrolled in public schools. Similar efforts in nonschool-based settings, such as youth shelters or youth drop-in centers, would contribute to a more complete understanding of risks among *all* homeless youth. These efforts could include conducting the YRBS in nonschool-based settings on the same day, at the same time, as the school-based YRBS (i.e., to avoid duplication). Alternately other sampling methods, such as respondent-driven sampling, could be used to understand the experiences of youth who are not enrolled in schools (Heckathorn, 1997). These methods would expand the understanding of both the prevalence of youth homelessness and the extent to which characteristics and experiences of youth vary based on school enrollment. This information could be used to strategically target services as well as to illuminate factors related to school enrollment among homeless youth.

In addition, as more YRBS efforts around the country begin including housing questions, surveys from these states and localities can be used to replicate this study. Replication will address the limitations associated with generalizability by increasing the understanding of how the prevalence of youth homelessness varies based on geographic and demographic differences. In addition, repli-

cation will help develop a more informed understanding of the relationship between youth homelessness and other experiences or known risk factors (i.e., mental health, substance use, physical safety).

Prevalence of other risks associated with youth homelessness. As previously noted, this study provided an overview of the prevalence of youth homelessness and the frequency of several mental health problems among housed and homeless youth. The YRBS also includes questions addressing a broad range of risk behaviors including physical safety, sexual risk-taking, nutrition/physical health, and substance use. Future research can extend the understanding of behavioral functioning in this population by examining the frequency of other risk behaviors among youth who are homeless with and without their parents and as compared with housed youth.

Inclusion of other relevant co-occurring variables. As with any secondary data analysis study, the present study was limited to only those questions included in the 2011 Philadelphia YRBS. Although data from the YRBS increase the understanding of youth homelessness, these data are cross-sectional and exclude several important variables. Specifically, the Philadelphia YRBS did not include questions related to sexual orientation or protective factors. Research has documented that youth who identify as lesbian, gay, bisexual, transgender, or questioning (LGBTQ) are more likely to experience homelessness than their heterosexual peers (Rice et al., 2012). Future studies should specifically address sexual orientation to enhance the understanding of homelessness among this vulnerable population and to facilitate strategically targeting services for LGBTQ youth. Efforts should also be made to address the presence of protective factors in the lives of youth experiencing homelessness. These factors could include social support and engagement in school-based activities.

Future research should also include efforts to elucidate the specific risks associated with episodes of homelessness as well as the factors that might predispose youth and families toward homelessness. As noted, cross-sectional YRBS data can only be used to assess relationships between variables; however, other preoccurring risks might contribute to symptoms of depression, suicidality, and self-injurious behavior.

Conclusion

National reports indicate the rate of youth homelessness is rising, but knowledge of the experiences and needs of these youth is lacking. A first step to designing and enacting youth-centered interventions is developing innovative, cost-effective methods to assess the prevalence of youth homelessness and to gain insight into their experiences. Methods such as the YRBS can meet youth where they are (in schools) and ask about their experiences in nonthreatening ways. The capacity to gain this information represents a first step towards identifying and meeting the

needs of this vulnerable population. Future efforts should focus on developing a more complete understanding of the prevalence and characteristics of youth experiencing homelessness—including youth not enrolled in schools—and using this understanding to develop and strategically target services to youth experiencing homelessness.

Author Notes

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References

Buckner, J. C., Mezzacappa, E., & Beardslee, W. R. (2003). Characteristics of resilient youths living in poverty: The role of self-regulatory processes. *Development and Psychopathology, 15*, 139—162. http://dx.doi.org/10.1017.S0954579403000087

Buckner, J. C., Mezzacappa, E., & Beardslee, W. R. (2009). Self-regulation and its relations to adaptive functioning in low income youths. *American Journal of Orthopsychiatry, 79*(1), 19—30. http://dx.doi.org/10.1037/a0014796

Centers for Disease Control and Prevention. (2004). *Methodology of the youth risk behavior surveillance system.* MMWR; 53 (No. RR-12). Retrieved from http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5312a1.htm

Cowan, B. A. (2014). Trauma exposures and mental health outcomes among sheltered children and youth ages 6—18. In M. Haskett, S. Perlman, & B. Cowan (Eds.) *Supporting homeless families: Current practices and future directions* (pp. 35—55). New York, NY: Springer. http://dx.doi.org/10.1007/978-1-4614-8718-0_3

Cutuli, J. J., & Herbers, J. E. (2014). Promoting resilience for children who experience family homelessness: Opportunities to encourage developmental competence. *Cityscape, 16*(1), 113—140. Retrieved from http://www.huduser.org/portal/periodicals/cityscpe/vol16num1/ch5.pdf

Edidin, J. P., Ganim, Z., Hunter, S. J., & Karnik, N. J. (2012). The mental and physical health of homeless youth: A literature review. *Child Psychiatry and Human Development, 43,* 354—375. http://dx.doi.org/10.1007/s10578-011-0270-1

Hallett, R. E. (2010). Living doubled-up: Influence of residential environment on educational participation. *Education and Urban Society, 44,* 371—391. http://dx.doi.org/10.1177/0013124510392778

Heckathorn, D. D. (1997). Respondent-driven sampling: A new approach to the study of hidden populations. *Social Problems, 44,* 174—199. http://dx.doi.org/10.2307/3096941

Herbers, J. E., & Cutuli, J. J. (2014). Research on programs for children and youth experiencing homelessness. In M. Haskett, S. Perlman, & B. Cowan (Eds.), *Supporting homeless families: Current practices and future directions* (pp. 187—207). New York, NY: Springer. http://dx.doi.org/10.1007/978-1-4614-8718-0_10

Herbers, J. E., Cutuli, J. J., Monn, A. R., Narayan, A. J., & Masten, A. S. (2014). Trauma, adversity, and parent-child relationships among young children experiencing homelessness. *Journal of Abnormal Child Psychology.* http://dx.doi.org/10.1007/s10802-014-9868-7

Herbers, J. E., Cutuli, J. J., Supkoff, L. M., Heistad, D., Chan, C.-K., Hinz, E., & Masten, A. S. (2012). Early reading skills and academic achievement trajectories of students facing poverty, homelessness, and high residential mobility. *Educational Researcher, 41,* 366—374. http://dx.doi.org/10.3102/0013189X12445320

HUD Homeless Emergency Assistance and Rapid Transition to Housing, 76 Fed. Reg. 75994 (December 5, 2011) (Codified as 24 CFR Parts 91, 582, and 583)

Masten, A. S., Herbers, J. E., Desjardins, C. D., Cutuli, J. J., McCormick, C. M., Sapienza, J. K., . . . Zelazo, P. D. (2012). Executive function skills and school success in young children experiencing homelessness. *Educational Researcher, 41,* 375—384. http://dx.doi.org/10.3102/0013189X12459883

Masten, A. S., Roisman, G. I., Long, J. D., Burt, K. B., Obradović, J., Riley, J., . . . Tellegen, A. (2005). Developmental cascades: Linking academic achievement and externalizing and internalizing symptoms over 20 years. *Developmental Psychology, 43*, 733—746. http://dx.doi.org/10.1037/0012-1649.41.5.733

McKenzie-Mohr, S., Coates, J., & McLeod, H. (2012). Responding to the needs of youth who are homeless: Calling for politicized trauma-informed intervention. *Children and Youth Services Review, 34,* 136—143. http://dx.doi.org/10.1016/j.childyouth.2011.09.008

McKinney-Vento Homeless Education Act. 42 USC § 11434a (2)(B).

Merscham, C., Van Leeuwen, J. M., & McGuire, M. (2009). Mental health and substance abuse indicators among homeless youth in Denver, Colorado. *Child Welfare, 88,* 93—110.

Nabors, L., Proescher, E., & DeSilva, M. (2001). School-based mental health prevention activities for homeless and at-risk youth. *Child & Youth Care Forum, 30,* 3—18. http://dx.doi.org/10.1023/A:1016634702458

Pergamit, M., Cunningham, M., Burt, M., Lee, P., Howell, B., & Bertumen, K., (2013). *Counting homeless youth: Promising practices from the Youth Count! Initiative.* Retrieved from http://www.urban.org/publications/412876.html

Perlman, S., Cowan, B., Gewirtz, A., Haskett, M., & Drerup, L. (2012). Supporting positive parenting in the context of homelessness. *American Journal of Orthopsychiatry, 82*, 402—412. http://dx.doi.org/10.1111/j.1939-0025.2012.01158.x

Perlman, S., Sheller, S., Hudson, & Wilson, L. (2014). Parenting in the face of homelessness. In M. Haskett, S. Perlman, & B. Cowan (Eds.) *Supporting homeless families: Current practices and future directions* (pp. 55—77). New York, NY: Springer. http://dx.doi.org/10.1007/978-1-4614-8718-0_4

Rice, E., Barman-Adhikari, A., Rhoades, H., Winetrobe, H., Fulginiti, A., Astor, R., . . . Kordic, T. (2013). Homeless experiences, sexual orientation, and sexual risk taking among high school students in Los Angeles. *Journal of Adolescent Health,* 1—6. http://dx.doi.org/10.1016/j.jadohealth.2012.11.011

Toro, P. A., Dworsky, A., & Fowler, P. J., (2007, March). *Homeless youth in the United States: Recent research findings and intervention approaches*. Paper presented at the National Symposium on Homelessness Research. Retrieved from http://www.huduser.org/publications/pdf/p6.pdf

United States Interagency Council on Homelessness. (2013, February). *Framework to end youth homelessness: A resource text for dialogue and action.* Retrieved from http://www.usich.gov/resources/uploads/asset_library/USICH_Youth_Framework__FINAL_02_13_131.pdf

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