A Prospective Study of Childhood and Adolescent Antecedents of Homelessness among a Community Population of African Americans

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ABSTRACT *Much is known about contemporaneous correlates of homelessness from studies of homeless individuals. However, few studies have prospectively examined early antecedents and prevalence of homelessness in community populations. We use data from a 35-year study of a community population of African Americans to examine relationships between homelessness and prior structural, family, school, and behavioral influences. Nearly 22% of males and 16% of females reported homelessness between ages 15 and 42, providing a rare estimate within an African American urban community population. In bivariate analyses, lower school bonds, depressed mood, violent behavior, and running away in adolescence are predictive for both males and females. Teen parenting and angry mood are unique influences for females, while for males, poor first grade classroom conduct and adolescent substance use are unique risks. In multivariate analyses, poor classroom conduct and weaker school bonds predict homelessness among males, while teen parenting does so for females. Running away before age 15 is strongly predictive of later homelessness for both males and females. These results reveal the relative influence of multiple, interrelated early risks on homelessness and confirm our hypothesis that factors linked to other poor outcomes also relate to homelessness, underscoring another benefit to early prevention efforts.*

KEYWORDS *Homelessness, Early risk factors, Prospective study, Community population, African Americans, Running away, Social bonds, Classroom conduct, Teen parenting*

Homelessness has increased dramatically in the last 20 to 30 years,¹ with roughly 3.5 million people experiencing homelessness each year.² These individuals often suffer from physical and mental health problems, including HIV/AIDS, tuberculosis, substance use disorders, psychoses, and personality disorders.^{3–5} The nation as a whole pays a significant price in social and economic costs related to homelessness.^{6–9}

Studies of adult homelessness tend to focus on concurrent correlates, such as substance use, mental health problems, arrest history, and lack of family support,^{10–16} but they do not help us identify and understand characteristics and conditions occurring earlier in the life course that may increase vulnerability to becoming homeless. Studies using retrospective assessments of early predictors have

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found that homelessness relates to childhood adversity (e.g., poverty and family problems), problems in school, antisocial and offending behavior, substance use, and mental health problems.^{16–19} These studies are limited, however, by the use of cross-sectional data with retrospective reports of childhood adversity, use of homeless or institutionalized samples, focus on a limited range of early risk factors, or insufficient consideration of differences within racial groups.

In one of the few prospective studies of homelessness, van Den Bree et al. assessed the relationship between a range of adolescent risk factors and early adult homelessness.²⁰ Findings showed that family relationship quality, school adjustment problems, and experiences of victimization predicted homelessness 5 years later. Studies on adolescent homelessness have also found these factors to be predictive,^{21–23} although the temporal relationship among these factors is difficult to determine.²⁴ Additional prospective research is needed to explore the impact of risk factors on subsequent homelessness and assess how the influence of these risk factors varies in different populations over long periods of time.

In this study, we build upon the existing research by examining the relationship between adult homelessness and early school and family adversity, mental health, and risk behaviors using prospective data from a 35-year study of a community population of African Americans. Using a developmental approach, we examine childhood and adolescent risk factors and take into consideration interrelationships among factors. This allows us to explore whether individual, social, and structural problems early in life establish vulnerability for later homelessness.

Based on the literature on adolescent and adult homelessness as well as other poor social outcomes, this study examines a diverse array of individual, social, and contextual risks from childhood and adolescence which we hypothesize will increase vulnerability to later homelessness. Specifically, early maladaptive behaviors, psychological problems, weak social bonds (e.g., poor family ties), risk behaviors (e.g., drug use and violence), and structural disadvantage (e.g., poverty, family composition, and mobility) have been associated with poor outcomes, including homelessness.^{15–36} Running away is an especially important risk factor linked to both adolescent and adult homelessness as well as other problems.^{19,37,38} Many consider running away to be a proxy for homelessness, particularly if there is no adult supervision and safety is compromised.^{24,39}

A number of studies demonstrate the interrelationships among these risk factors. For example, economic disadvantage has been related to poor family relationships,^{40–42} early conduct disorders have been linked to poor adolescent school bonds,^{43–45} and adolescent social bonds are related to adolescent drug use and other antisocial behaviors.^{40,46–49} Also, family and school bonds, adolescent depression, and substance use have been linked to running away.^{38,50}

We expect to find gender differences in the prevalence of homelessness and in the relationships between risk factors and homelessness. Research on the development of risk behaviors and poor social outcomes has identified gender differences in early predictors. For example, aggressive behavior predicted drug use among males but not females,⁴⁶ and females were more responsive than males to family bonds and parental monitoring.^{29,51} Although some studies have taken gender into account, few studies have examined differences in early risk for homelessness by gender.

In addition to examining early risk factors for homelessness, we will provide estimates of homelessness over time in a community population of African Americans. This is important as there is a lack of research on lifetime homelessness in community populations. Furthermore, African Americans are

more disproportionately represented among the homeless than they are among the poor,⁵² yet the reasons for this are not well understood.

In sum, we aim to determine how multiple childhood and adolescent risk factors relate to later homelessness in a community population of African Americans. Our specific research questions are: (1) What is the prevalence of homelessness in a community population of African Americans? (2) Do childhood risk factors increase the likelihood of homelessness? (3) Does the addition of adolescent family, school, and mental health factors increase the risk? (4) Do adolescent risk behaviors increase the risk for homelessness, taking into account childhood risk factors and adolescent family, school, and mental health factors?, and (5) Does running away predict later homelessness, taking into account other childhood and adolescent risk factors?

METHODS

Data came from the Woodlawn Study, a prospective study of a cohort of urban African American first graders from the Woodlawn Community Area of Chicago followed from age six to age 42 ($N=1,242$; 13 families did not participate). During first grade (1966–67), teachers and mothers reported about the child's family life, behavior, and health. In 1975–1976, 939 of the mothers and 705 of the teenaged cohort members were re-interviewed on the adolescents' psychological well-being, delinquency, family relationships, and school activities.⁵³ In early adulthood (age 32, 1992–1993), 80% ($n=952$) of those who were alive and mentally competent were interviewed. In 2002–2003, of the 1187 individuals still alive, we located 1,002 (84%) and re-interviewed 833 (83%).⁵⁴ Of the 85% ($N=1054$) assessed at one or both adult interviews, all but four provided homelessness information, and this group is the focus on the current study ($N=1,050$, 504 males, 546 females).

In testing for attrition biases, we found that those who were not interviewed in adulthood were more likely to have moved frequently, to have self-reported at least one act of violence in adolescence, to have lived in poverty, and to have lived in a single mother household in first grade. The potential for underestimating the impact of these early factors is noted in the "Discussion" section. We found no other differences by adult interview status in regard to key risk factors (e.g., running away, substance use, and poor conduct). Also, in comparing those who were and were not followed at adolescence, we found no significant differences in first grade poverty, aggression, and household structure.

Measures

Homelessness between ages 15 and 42 is a dichotomous measure indicating whether someone responded in the affirmative to any of the following: At age 32, respondents reported whether there was a period since they were 15 when they drifted around or had no regular place to live; later, at age 42, they reported whether they had been homeless in the past 12 months and if they had been drifting or had no regular place to live in the past 10 years; they also reported if they lost their home because they were not able to pay the rent or mortgage. Table 1 displays descriptive statistics for each measure and their relationship to homelessness.

Poverty, which is dichotomized, is based on mothers' report of income being below 100% of 1965 Federal Guidelines. If income was missing, poverty was assumed if mothers reported that their main income source was welfare. Single mother household is a dichotomous measure based on mothers' report of being the lone adult in the home.

TABLE 1 Population characteristics: a comparison of homeless and not homeless in adulthood (*N*=1,050)

	Ever homeless (ages 15–42)		<i>p</i> value (logit)
	No	Yes	
Total	81.3%	18.7%	
Gender			
Males	78.2%	21.8%	0.020
Females	84.2%	15.8%	
Background factors			
First grade poverty (0–1), <i>n</i> (%)	50.6%	56.0%	0.215
First grade mother lone adult in household (0–1), <i>n</i> (%)	34.7%	40.6%	0.160
First grade aggressiveness (0–1), <i>n</i> (%)	29.5%	38.3%	0.030
First grade poorer classroom conduct (range 0–3), mean, SE	1.3, 0.03	1.5, 0.07	0.001
Adolescent factors			
Moves since birth (range 0–13), mean, SE	3.6, 0.10	4.0, 0.21	0.078
Low school bonds (range 5–28), mean, SE	11.8, 0.18	13.7, 0.44	0.001
Lower family warmth (range 5–25), mean, SE	16.9, 0.29	17.7, 0.63	0.256
More angry mood (range 7–40), mean, SE	18.0, 0.30	20.2, 0.72	0.005
More depressed mood (range 7–39), mean, SE	13.6, 0.26	15.6, 0.60	0.002
Adolescent risk behaviors			
Alcohol and marijuana, times used in past 2 months (0–15), mean, SE	3.6, 0.16	5.3, 0.42	0.001
Violent acts in last 3 years (natural log 0–32), mean, SE	2.4, 0.01	2.6, 0.04	0.001
Teen parenting (before age 20, 0–1)	27.0%	36.0%	0.022
Running away more than once (0–1)	9.9%	28.9%	0.001

Imputed data (number of imputations = 40); for all variables, higher values indicate more risk

Poor first grade classroom conduct is an ordinal measure based on teachers’ ratings and categorized as excellent, good, fair, or unsatisfactory. Reliability and validity were demonstrated through a series of multiple assorted tests.⁵⁵

Teachers rated first grade *aggressive behavior* (fights, steals, lies, resists authority, destructive to others or property, obstinate, disobedient, and uncooperative) on a four-point scale, which is dichotomized in this study as 0 = within minimal limits of acceptable behavior or 1 = mildly, moderately, or severely excessive. Reliability was demonstrated using the test–retest method, and validity was demonstrated through assorted tests of criterion, construct, and content validity.⁵⁵

Moves since birth is drawn from mothers’ reports of number of moves from birth to first grade and between first grade and adolescence. *Low family warmth* ($\alpha=0.74$) is the sum of adolescent reports of how often they and adults in the family: (1) act warm, loving, (2) hug and kiss, (3) bring each other little unexpected gifts, (4) are understanding about each other’s moods, and (5) say nice things to each other (each was coded 1 = several times a week to 6 ≤ every few months).

Low school bonds is the sum of five items capturing the importance of school to adolescents ($\alpha=0.67$): (1) Doing well in school is important to me, (2) How do your teachers think you are doing in school?, (3) How satisfied are you with your teacher’s

opinion of how you're doing? (all three on a scale of 1 = very, very much to 6 = not at all), (4) How far would you like to go in school if you have the chance? (1 = beyond college to 5 = some high school), and (5) How far do you really think you will go in school? (1 = beyond college to 5 = some high school).

Angry mood ($\alpha=0.72$) is the sum of seven adolescent reports of anger/aggression: (1) When I get angry, I stay angry, (2) If someone insults me, I am likely to hit them, (3) I yell at people, (4) I feel like I am boiling inside, (5) I lose my temper, (6) I feel angry, (7) I get into fights (1 = not at all to 6 = very, very much). *Depressed mood* in adolescence ($\alpha=0.68$) is the sum of responses on the following items: (1) I feel sad, (2) I cry and don't know why, (3) I feel hopeless, (4) I feel ashamed of myself, (5) I feel guilty, (6) I don't feel worth much, (7) People would be better off without me (1 = not at all to 6 = very, very much).

Substance use combines adolescents' self reports of alcohol (beer, wine, hard liquor) and marijuana use in the past two months. Each original measure ranged from 0 = not at all to 5 = 40 or more times resulting in a summed scale ranging from 0 to 15.

Violence is the sum of adolescent self reports of frequency (0 = never to 4 = five or more times) of engaging in eight behaviors: (1) got into a serious fight, (2) got something by threatening a person, (3) hurt someone badly enough to need bandages or a doctor, (4) hit a teacher, (5) hit father, (6) hit mother, (7) taken part in a gang fight, and (8) carried a weapon. *Teen parenting* is a dichotomous measure based on young and mid-adult reports of parenthood before age 20.

Running away more than once is a dichotomous measure based on the affirmative on any of the following items from three sources: in the adolescent assessment (How many times have you run away from home in the last 3 years?), in the mothers' assessment in 1975 for this same 3-year period, and in the young adult assessment (Did you run away from home overnight more than once before the age of 15?). Agreement between adolescents' and mothers' reports was 95%; between mothers' reports and young adults' reports, 91%; and between adolescent and young adult reports, 88%.

Analyses

For all analyses, we used the 1,050 participants who had provided data on homelessness at either adult interview. As shown in Table 2, the data set has incomplete information at certain time points over the life course. To reduce bias from incomplete data,^{56,57} we used imputation by chained equations in concert with STATA 11,^{58,59} creating 40 imputed datasets (each $n=1,050$) using all variables in our conceptual framework.⁵⁶ All missing first grade and adolescent predictors were imputed, as well as homelessness for those with only one adult interview who reported not being homeless in that interview. Analyses with multiple imputation provide less biased and more efficient (lower standard errors; narrower confidence intervals) parameter estimation than do analyses with listwise deletion.⁵⁶

With these imputed data, we first conducted bivariate analyses (logit) to assess the characteristics of those who were ever homeless to those who were not. Variables that related to homelessness at $p<0.20$ for males or females were included in the subsequent regression analyses.⁶⁰ Thus, our final independent variables were first grade factors (i.e., family poverty, single-mother household, aggressive behavior, and classroom conduct), adolescent family, school, and mental health risk factors (i.e., family mobility, family warmth, school bonds, angry mood, and depressed mood),

TABLE 2 Woodlawn study interview status for those with an adult interview (N=1,050)

First grade	Adolescence	Young adulthood	Mid-adulthood	
1966–1967 (age 6)	1976–1977 (age 16) ^a	1992–1993 (age 32)	2002–2003 (age 42) ^b	N (%)
*	*	*	*	472 (45.0%)
*	*	*	—	125 (11.9%)
*	*	—	*	38 (3.6%)
*	—	*	*	255 (24.3%)
*	—	*		96 (9.1%)
*	—	—	*	64 (6.1%)
1,050	635	948	829	1,050 (100.0%)

^aEight hundred twenty-eight of the mothers were interviewed in 1976–1977

^bEighty-six focal children were known to have died by the 2002 interview

* participated in this assessment

— did not participate

and adolescent risk behaviors (i.e., frequent substance use, violence, having a child, and running away).

We then conducted logistic regression analyses to identify significant childhood and adolescent predictors of adult homelessness. Because of the interrelationships between these risk factors, we assess them incrementally. We first examine early childhood factors alone to assess their impact (model 1). Next, building upon the childhood risk factors, we consider the impact of adolescent family, school, and mental health factors in model 2, which allowed us to estimate their direct effects, taking into account first grade factors. Then, we introduce adolescent risk behaviors in model 3, taking into account early childhood risk and adolescent family, school, and mental health factors. Finally, taking into account all other risk factors, we examine the impact of running away separately, which we hypothesize to be most strongly related to later homelessness, if not an early indicator of being homeless. The literature has found running away to be a very strong, proximal predictor of homelessness,³⁷ and it is often the result of negative family and school environments as well as behavioral and mental health problems.³⁸ Consequently, we first assessed the relative influence of substance use, violence, and teen parenting before considering running away in the final model. We conducted analyses separately for males and females to assess differences in risk factor prevalence and in the relationship between these risk factors and homelessness.

RESULTS

Population Characteristics

As shown in Table 1, those reporting homelessness between ages 15 and 42 were significantly more likely to be male (22% versus 16%) and had significantly higher rates of aggressive behavior, poor first grade conduct, low school bonds, angry mood, depressed mood, substance use, violence, teen parenting, and running away. Table 3 presents characteristics of the homeless population by gender. Of those who experienced homelessness, males were significantly more likely than females to have been aggressive or exhibit poor classroom conduct in first grade. Homeless adult males also had significantly higher levels of adolescent substance use and violence, while homeless adult females had significantly higher prevalence of teen parenting.

TABLE 3 Characteristics of homeless males and females (*N*=196)

	Ever homeless (ages 15–42)		<i>p</i> value; male versus female (logit)
	Males	Females	
Total	21.8%	15.8%	0.020
Background factors			
First grade poverty (0–1), <i>n</i> (%)	59.6%	51.5%	0.592
First grade mother lone adult in household (0–1), <i>n</i> (%)	43.4%	37.0%	0.249
First grade aggressiveness (0–1), <i>n</i> (%)	46.1%	28.4%	0.017
First grade poorer classroom conduct (range 0–3), mean, SE	1.8, 0.09	1.3, 0.10	0.001
Adolescent factors			
Moves since birth (range 0–13), mean, SE	4.2, 0.27	3.9, 0.33	0.379
Low school bonds (range 5–28), mean, SE	14.1, 0.52	13.1, 0.64	0.152
Lower family warmth (range 5–25), mean, SE	16.7, 0.78	18.9, 0.95	0.079
More angry mood (range 7–40), mean, SE	19.6, 0.88	20.9, 1.07	0.183
More depressed mood (range 7–39), mean, SE	15.2, 0.70	16.2, 1.00	0.454
Adolescent risk behaviors			
Alcohol and marijuana, times used in past 2 months (0–15), mean, SE	6.3, 0.51	3.9, 0.57	0.002
Violent acts in last 3 years (natural log 0–32), mean, SE	2.7, 0.05	2.4, 0.05	0.002
Teen parenting (before age 20, 0–1)	23.2%	52.3%	0.001
Running away more than once (0–1)	27.3%	31.0%	0.562

Imputed data (number of imputations = 40); for all variables, higher values indicate more risk

Predictors of Homelessness

Table 4 shows the bivariate results and four sequential multivariate logistic regression model results for males: model 1—first grade characteristics alone; model 2—first grade and adolescent family, school, and mental health factors; model 3—all first grade and adolescent risk factors except running away; and model 4—all variables. In the bivariate analyses (column 1), homelessness in males significantly related to poor first grade conduct, lower school bonds, depressed mood, frequent substance use, violence, and running away. The two strongest individual risk factors for homelessness among males were violence ($OR=3.64$) and running away ($OR=3.22$). In model 1 (childhood factors only), we found that males with poor conduct in first grade were significantly more likely to report later homelessness.

In model 2, when adolescent family, school, and mental health factors were added, poor first grade conduct continued to be significantly related to male adult homelessness ($OR=1.56$, $p=0.030$), and lower school bonds became a significant predictor ($OR=1.10$, $p=0.008$). In model 3, adding adolescent risk behaviors except running away provided no new significant predictors, but resulted in first grade conduct and school bonds becoming marginal. Finally, in model 4 with all risk factors, running away significantly increased the risk of adult homelessness among males ($OR=2.53$, $p=0.013$); school bonds was marginally significant; no other variables were related to adult homelessness for males.

Table 5 displays similar bivariate and multivariate analyses for females. As shown in column 1, there were no significant bivariate relationships between adult homelessness and any of the first grade factors for females, but it was related to

TABLE 4 Predictors of homelessness ages 15–42 for males (N=504) in the Woodlawn study: logistic regression models

Risk factors	Bivariate analyses		Model 1		Model 2		Model 3		Model 4	
	Odds ratio (95% CI)		Odds ratio (95% CI)		Odds ratio (95% CI)		Odds ratio (95% CI)		Odds ratio (95% CI)	
First grade background factors										
Poverty	1.38 (0.85–2.22), $p=0.192$		1.19 (0.69–2.06), $p=0.528$		1.08 (0.61–1.93), $p=0.785$		1.09 (0.60–2.00), $p=0.778$		1.12 (0.61–2.07), $p=0.717$	
Mother lone adult in home	1.44 (0.89–2.32), $p=0.137$		1.32 (0.77–2.28), $p=0.312$		1.36 (0.74–2.48), $p=0.321$		1.35 (0.73–2.52), $p=0.339$		1.30 (0.69–2.45), $p=0.413$	
Aggressiveness	1.50 (0.95–2.40), $p=0.085$		0.97 (0.55–1.69), $p=0.901$		0.90 (0.50–1.63), $p=0.735$		0.81 (0.44–1.50), $p=0.506$		0.77 (0.41–1.43), $p=0.404$	
Poor conduct	1.61 (1.17–2.21), $p=0.003$		1.62 (1.12–2.37), $p=0.012$		1.56 (1.04–2.32), $p=0.030$		1.43 (0.95–2.15), $p=0.083$		1.41 (0.94–2.14), $p=0.100$	
Adolescent family, school, and mental health factors										
Moves since birth	1.09 (0.98–1.21), $p=0.121$				1.03 (0.91–1.17), $p=0.651$		1.03 (0.90–1.17), $p=0.692$		1.04 (0.91–1.18), $p=0.590$	
Lower school bonds	1.12 (1.05–1.19), $p=0.001$				1.10 (1.03–1.18), $p=0.008$		1.07 (0.99–1.16), $p=0.055$		1.07 (0.99–1.16), $p=0.066$	
Lower family warmth	1.00 (0.96–1.04), $p=0.943$				1.00 (0.96–1.04), $p=0.935$		1.00 (0.95–1.04), $p=0.949$		0.99 (0.95–1.04), $p=0.801$	
Angry mood	1.03 (0.99–1.07), $p=0.152$				1.00 (0.96–1.05), $p=0.926$		0.99 (0.94–1.04), $p=0.634$		1.00 (0.93–1.04), $p=0.599$	
Depressed mood	1.05 (1.01–1.10), $p=0.027$				1.03 (0.98–1.09), $p=0.219$		1.04 (0.99–1.10), $p=0.135$		1.04 (0.99–1.10), $p=0.135$	
Adolescent risk behaviors										
Frequent alcohol, marijuana use	1.12 (1.05–1.20), $p=0.001$						1.06 (0.96–1.16), $p=0.251$		1.06 (0.96–1.16), $p=0.257$	
Violence	3.64 (1.51–8.76), $p=0.004$						2.08 (0.64–6.80), $p=0.222$		1.69 (0.51–5.62), $p=0.392$	
Teen parenting	1.38 (0.77–2.48), $p=0.282$						1.15 (0.61–2.16), $p=0.657$		1.18 (0.62–2.24), $p=0.607$	
Running away	3.22 (1.80–5.75), $p<0.001$								2.53 (1.32–4.84), $p=0.005$	

Imputed data (number of imputations = 40)

TABLE 5 Predictors of homelessness ages 15–42 for females (N=546) in the Woodlawn study: logistic regression models

Risk factors	Bivariate analyses		Model 1		Model 2		Model 3		Model 4	
	Odds ratio (95% CI)		Odds ratio (95% CI)		Odds ratio (95% CI)		Odds ratio (95% CI)		Odds ratio (95% CI)	
First grade background factors										
Poverty	1.07 (0.66–1.75), $p=0.775$		1.01 (0.56–1.82), $p=0.972$		0.97 (0.52–1.82), $p=0.929$		0.89 (0.46–1.70), $p=0.720$		0.81 (0.42–1.59), $p=0.547$	
Mother lone adult in home	1.11 (0.66–1.88), $p=0.692$		1.06 (0.56–1.98), $p=0.860$		0.98 (0.50–1.94), $p=0.965$		1.03 (0.52–2.06), $p=0.928$		1.10 (0.54–2.22), $p=0.793$	
Aggressiveness	1.27 (0.73–2.21), $p=0.402$		1.02 (0.53–1.97), $p=0.953$		0.97 (0.48–1.94), $p=0.923$		0.89 (0.43–1.84), $p=0.747$		0.93 (0.44–1.96), $p=0.840$	
First grade poor conduct	1.32 (0.94–1.86), $p=0.114$		1.31 (0.88–1.95), $p=0.187$		1.25 (0.81–1.91), $p=0.311$		1.14 (0.73–1.77), $p=0.571$		1.06 (0.67–1.67), $p=0.816$	
Adolescent family, school, and mental health factors										
Moves since birth	1.05 (0.94–1.18), $p=0.411$				1.04 (0.91–1.19), $p=0.544$		1.03 (0.90–1.19), $p=0.639$		1.04 (0.90–1.20), $p=0.585$	
Lower school bonds	1.10 (1.02–1.18), $p=0.015$				1.06 (0.97–1.15), $p=0.206$		1.04 (0.96–1.13), $p=0.336$		1.04 (0.96–1.13), $p=0.350$	
Lower family warmth	1.04 (0.99–1.10), $p=0.087$				1.04 (0.98–1.09), $p=0.189$		1.03 (0.98–1.09), $p=0.209$		1.03 (0.97–1.08), $p=0.326$	
Angry mood	1.06 (1.02–1.11), $p=0.004$				1.04 (0.99–1.09), $p=0.093$		1.03 (0.98–1.08), $p=0.299$		1.03 (0.97–1.08), $p=0.328$	
Depressed mood	1.06 (1.01–1.11), $p=0.015$				1.02 (0.97–1.08), $p=0.360$		1.03 (0.98–1.09), $p=0.230$		1.04 (0.98–1.10), $p=0.198$	
Adolescent risk behaviors										
Frequent alcohol, marijuana use	1.10 (0.99–1.21), $p=0.056$						1.04 (0.93–1.16), $p=0.512$		1.03 (0.92–1.16), $p=0.587$	
Violence	3.96 (1.28–12.22), $p=0.017$						1.81 (0.45–7.30), $p=0.399$		1.24 (0.29–5.31), $p=0.771$	
Teen parenting	2.06 (1.24–3.42), $p=0.005$						1.88 (1.08–3.27), $p=0.025$		1.83 (1.05–3.22), $p=0.035$	
Running away	4.30 (2.35–7.86), $p=<0.001$								3.19 (1.55–6.56), $p=0.002$	

Imputed data (number of imputations = 40)

low school bonds, angry mood, depressed mood, violence, teen parenting, and running away in adolescence. As with males, violence ($OR=3.96$) and running away ($OR=4.30$) had the highest odds for females in bivariate analyses.

In models 1 and 2 for females, we found no significant relationships between homelessness and either first grade or adolescent family, school, and mental health factors. In model 3, which added adolescent risk behaviors, we found that teen parenting significantly increased the risk of homelessness among females ($OR=1.88$, $p=0.025$). In model 4, which included all risk factors, both teen parenting ($OR=1.83$, $p=0.035$) and running away ($OR=3.19$, $p=0.002$) were significantly related to homelessness.

DISCUSSION

Much has been learned about the contemporaneous correlates of homelessness, but few studies have prospectively examined its early antecedents in a community population. Using prospective data collected over 35 years from multiple sources, this study provided a rare opportunity to study the development of homelessness within an urban African American community. Findings show the influence of early behaviors and family characteristics on later homelessness and how these risks differ by gender. In addition, the study provides a prevalence rate of homelessness within a cohort of children followed over time. This is an important finding given the lack of estimates of lifetime homelessness in community populations.

Nearly 19% of the cohort reported being homeless at some point between ages 15 and 42. This estimate is higher than the lifetime prevalence rate of 7.4% found by Link and colleagues in a rare study of lifetime prevalence rates across the nation;⁶¹ the difference is perhaps because they used a sample of household residents with telephones and thus likely obtained an underestimate, or because homelessness rates are higher in disadvantaged and/or African American community populations. In our cohort, we found that the rate of homelessness among males (22%) was significantly higher than that among females (16%), which is similar to observations of higher male rates in studies of point prevalence rates of homelessness.^{19,62} Our data did not include estimates for the length of time one was homeless so we were not able to investigate these potential gender differences. However, it should be noted that the Woodlawn population is all African American and from a specific community in Chicago that was disadvantaged at the initiation of the study. The generalizability of the findings is limited to low-income, urban African Americans until replicated with other populations. Further research is needed to explore community samples of a variety of races and ethnicities as well as gender differences over the life course.

As with the recent work by van den Bree and colleagues,²⁰ our bivariate analyses are important for examining a wide array of childhood and adolescent risk factors not previously examined prospectively in studies of homelessness. Bivariate results show that for both males and females, lower school bonds, depressed mood, violence, and running away were significantly related to later homelessness. Teen parenting was a unique influence on homelessness for females, while first grade classroom conduct and substance use were significant only for males. These findings correspond with the literature on the prevalence of externalizing behavior among males and its negative impact on later outcomes,^{26,47,63} and they extend what is known about the negative effects of teen parenting for females.^{64,65} It is interesting that we found no significant gender difference in the level of adolescent depression

among those who were later homeless. While other studies have found higher rates of depression among homeless females than males,^{35,66} these findings have been based on concurrent relationships; our finding may reflect the longitudinal relationship between adolescent depression and future homelessness.

Multivariate analyses found that first grade behavior (poor classroom conduct) and adolescent social factors (school bonds) increased later vulnerability for homelessness among males, although the significance of these effects was reduced when adolescent risk behaviors were added to the model. The role of school problems has been identified in cross-sectional and retrospective studies of risk factors for homelessness,^{21,35,67} and the recent prospective study by van den Bree et al. also found that school adjustment was an important predictor of later homelessness.²⁰ Here we build upon these findings by prospectively demonstrating that the negative impact of low school bonds appears to be stronger among males than females in an urban African American population. The findings also suggest that first grade conduct and school bonds are interrelated with adolescent risk behaviors in their impact on adult homelessness. Additional research is needed to explore these relationships.

For females, multivariate analyses showed that teen parenting was a primary predictor of homelessness, underscoring the strong impact of teen parenting relative to other known risk factors among female teens. Teen parenting may relate to homelessness by eroding the girl's relationship with her family, reducing her ability to finish school, and diminishing her capacity to be self sufficient as an adult.³⁷ Further, becoming a teen parent while living in a dysfunctional or abusive home environment may be the impetus that leads the girl to run away or be kicked out. Additional research is needed to investigate the mechanisms relating teen parenting with adult homelessness among females.

Our final research question investigated the role of running away, taking into account other childhood and adolescent risk factors. Indeed, we found a strong influence of running away for both males and females. This finding corresponds with research on adolescent homelessness, which considers running away to be either a first step to becoming homeless or, in some cases, indicative of homelessness itself, depending on the circumstances.²⁴ While other cross-sectional and retrospective studies have identified the link between running away and homelessness,^{19,37} this study uses prospective data to show that those who run away when young have a significant increased risk of becoming homeless later. More research is needed to determine how running away increases vulnerability for homelessness above and beyond acting as a proxy for homelessness. It may be that running away operates through association with deviant peers, lack of financial resources, troubles with drugs and violence, or other antisocial paths. There may also be a distinction between those who runaway only a few times or for only short periods of time compared to those who run away frequently or for longer periods of time.

Due to the interrelationships among the variables in the models, many significant relationships that emerged in bivariate analyses became less powerful when placed in models with other competing variables. For example, relatively high correlations were found between violence and substance use (0.481 for males and 0.382 for females) and between depression and anger (0.334 for males and 0.443 for females). High correlations among these risk factors are to be expected; it is possible that they share common root causes that are not assessed here. Future research should consider what underlying factors may affect risk factors for homelessness as well as

homelessness itself. It is also important that future studies incorporate examination of more proximal and structural influences, such as employment and housing, which are probably critical factors in the causal pathway to homelessness.⁵² It is likely that the early childhood and adolescent behaviors and situations set up trajectories that may lead to homelessness if given the right later problems and situations.⁵²

Our findings are limited by the measures we had available. Retrospective research with homeless populations has indicated that homelessness is tied to early physical and sexual abuse,^{16,17} but we did not have information on either of these factors. Sexual abuse may be a particularly relevant risk factor for females. Physical abuse may affect homelessness not only directly, but also indirectly through adolescent risk behaviors such as substance use and violence. It is also possible that our risk factors and homelessness are influenced by a common early predictor that is not measured in this study. Another concern is that our measure of homelessness covering ages 15 to 42 is not specific with regard to details of the homelessness episode (e.g., duration). Furthermore, our measure of homelessness is a one-item indicator that is different at the two adult assessments, which could potentially reduce the reliability of the measure. Another limitation is attrition. Because those who were not interviewed were more likely to have moved frequently, to have been violent, to have lived in poverty, and to have lived in a single mother household, we may have underestimated the relationships between these risk factors and homelessness. Finally, as mentioned earlier, the generalizability of our findings is limited to urban African American communities. Despite these limitations, this preliminary study makes an important contribution to the literature, paving the way for better prospective research. We have shown that homelessness does have roots in childhood and adolescence even though they may be subtle. Future research is needed to examine the pathways from childhood to adult homelessness, taking into consideration proximal and structural risk factors in adulthood.

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