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Employment and Other Income Sources among Homeless Youth

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Abstract

Homeless youth report high rates of unemployment. While homeless serving agencies usually offer employment services, most homeless youth are disengaged from homeless service agencies, and a limited number of studies have examined employment and other income sources among service disconnected youth. Our study examined income sources and change in income among service disconnected youth, all of whom received Strengths-Based Outreach and Advocacy (SBOA, $N = 79$). Findings revealed that over time employment and legal income from non-survival behaviors increased (e.g., governmental assistance and receiving income from friends and relatives), while income from survival behaviors decreased (e.g., prostitution, stealing, selling possessions, selling blood or plasma). Although unemployment among these youth remained high (62%), income from survival behaviors reduced most drastically. Findings also suggest that employment is linked to housing stability and mental health, as is substance use and income, which suggests that mental health, housing, and substance use treatment services are important components in income stabilization for homeless youth.

Keywords

Homeless youth; Employment; Income; Outreach intervention

Homeless youth often identify employment as a top priority (Ferguson, Bender, Thompson, Maccio, & Pollio, 2012; Shaheen & Rio, 2007). Studies report unemployment rates as high as 75%, as compared to 16% among the general population of housed youth (Ferguson, Xie, & Glynn, 2012; U.S. Department of Labor, Bureau of Labor Statistics, 2016). The high unemployment rate is a concern because unemployed homeless youth often experience a greater length of time on the streets, use survival behaviors to earn money, and report high rates of drug addiction (Ferguson et al., 2012). Survival behaviors include prostitution, selling blood or plasma, dealing drugs, stealing, and panhandling (Ferguson, Bender, Thompson, Xie, & Pollio, 2011). On the other hand, employed youth show higher self-efficacy, positive self-identity, and social competency (Ferguson et al., 2012). Further, landlords usually require a reliable income source, so in order to exit the streets into independent living situations, youth need income.

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Conflict of Interest

The authors declare they have no conflicts of interest.

Studies indicate that youth living on the streets obtain income through multiple sources. Despite the high likelihood of unemployment, homeless youth can obtain legal income from paid employment, sometimes seeking employment services (Lenz-Rashid, 2006). As homeless youth are often disadvantaged in seeking formal employment due to lack of education and job skills, financial assistance through family, friends, and/or agencies is another legal source of income. However, some youth turn to survival behaviors for income, which can include both legal (e.g., selling possessions, selling blood or plasma) and illegal or legally regulated sources (e.g., panhandling, survival sex, theft, and dealing drugs; Ferguson, Bender, & Thompson, 2016).

In spite of the pressing need to understand income sources of homeless youth, the literature offers little information on how income sources change with interventions targeting this population. Moreover, knowledge about factors related to the change in income from different sources is limited. Using a longitudinal design, we sought to address gaps in understanding employment and income sources among youth by examining predictors of change over time associated with a strengths-based outreach and engagement intervention. Specifically, we examined homeless youth's employment status as well as income from different sources, including formal paid employment (e.g., full- and part-time employment, seasonal job, and day labor), survival behaviors (both legal and illegal sources) and non-survival behaviors (e.g., combining formal paid employment and financial assistance from families or agencies).

Factors Related to Homeless Youth's Income

Homeless youth experience multiple and overlapping disadvantages in employment. Compared to housed youth, homeless youth are more likely to report mental health problems (Burt, 2007; National Institute of Mental Health, 2010), high rates of alcohol and illicit drug use (Merscham, VanLeeuwen, & Maguire, 2009), and childhood abuse and foster care (Lenz-Rashid, 2006). Research indicates that the likelihood of obtaining employment among youth with a mental health problem significantly decreases (Lenz-Rashid, 2006). Similarly, adults receiving mental health treatment report poorer employment outcomes (Cook, 2006). Prior research also shows that substance use negatively affects gainful employment because those addicted to drugs are likely to turn to illegal sources of income (e.g., theft, dealing drugs) in order to sustain their addiction (Farabee, Shen, Hser, Grella, & Anglin, 2001; Ferguson et al., 2011). In addition, homeless youth with a history of foster care, and those reporting childhood victimization, report poorer employment success (Courtney, Terao, & Bost, 2004; Lenz-Rashid, 2006), while lesbian, gay, bisexual, transgender and queer (LGBTQ) youth experience discrimination at hiring and in the workplace (Maccio & Ferguson, 2016). In summary, LGBTQ youth and those with high rates of alcohol and illicit drug use, mental health problems, and a history of childhood abuse and foster care placement may experience greater difficulty obtaining income from employment and other legal sources. These challenges might further push youth towards survival behaviors for income generation. Further, housing stability likely influences homeless youth's income generation as improved housing stability can discourage youth's engagement in survival behaviors related to income generation, and increase youth's likelihood to turn to legal sources for income.

Employment services

A few studies have assessed employment services and/or employment outcomes among homeless youth (Barman-Adhikari, & Rice, 2014; Ferguson, Bender, & Thompson, 2014, 2015a,b; Ferguson & Xie, 2008; Ferguson et al., 2012; Lenz-Rashid, 2006). Ferguson et al. (2012) conducted a pilot study of Individual Placement and Support (IPS), an evidence-based approach developed for adults with severe mental illnesses (Becker & Drake, 2003; Drake, Bond, & Becker, 2012). IPS helps individuals gain and maintain competitive employment through integrating vocational and clinical services. Ferguson et al. (2012) found higher employment rates among those receiving IPS over a period of 10 months than among those in the comparison condition. Using a drop-in center recruited sample and a non-randomized design, Barman-Adhikari and Rice (2014) found that 47% of homeless youth utilized employment services offered by a drop-in center. Further, youth experiencing literal homelessness sought employment services less than those in some form of temporary housing, such as a shelter (Barman-Adhikari & Rice, 2014). Finally, Lenz-Rashid (2006) reported that 60% of youth completing an employment training program offered in a homeless shelter obtained employment within three months. Given the key role of employment and other income sources for self-sustainability, these studies highlight the promising effects of employment supports for homeless youth.

While homeless youth are a very diverse population, researchers have typically obtained much of the available information on those experiencing homelessness from youth currently residing in shelters or utilizing drop-in centers. Some research indicates that only 10% of homeless youth access services designed for them (Kelly & Caputo, 2007), and that youth disconnected from services experience greater risk for a variety of psychosocial problems including substance use, mental health problems and greater difficulty exiting homelessness (Kryda & Compton, 2009; Tyler, Akinyemi, & Kort-Butler, 2012; Sowell, Bairan, Akers, & Holtz, 2004). In addition, homeless serving agencies usually offer employment services but as most homeless youth avoid these agencies, they do not benefit from them. Further, non-service connected youth are likely to show different employment patterns. For example, non-service engaged youth may focus on immediate or basic needs rather than on obtaining employment (Barman-Adhikari & Rice, 2014). As the majority of homeless youth do not access services meant for them, a better understanding of their employment and income sources is needed to better inform providers. With effective intervention, chronic homelessness that persists into adulthood can be reduced, as well as the societal costs associated with the loss of human capital.

Our study examined the change trajectory of employment, as well as income from paid employment, non-survival behaviors, and survival behaviors (including both legal and illegal sources of income), among youth reporting three months of continuous homelessness and no service connection during this period. We used data from a larger study examining the impact of shelter versus drop-in center service use on substance use and other outcomes (Slesnick et al., 2016). We focused on predictors of change in employment and income over time as a result of a Strengths-Based Outreach and Advocacy (SBOA). This model of outreach emphasizes the relationship between outreach workers and their clients, includes a focus on strengths rather than pathology, and is client-driven with aggressive outreach. The

Strengths Model, developed at the University of Kansas School of Social Welfare, provides the underlying conceptual basis of SBOA including the premise that case management is to “assist individuals in identifying, securing, and preserving the range of resources, both external and internal, needed to live in a normal, independent way in the community” (Johnsen et al., 1999, p. 325). Homeless service providers agree that outreach is the first step towards engaging homeless populations into more intensive intervention that will help them exit the streets (Chamberlain & MacKenzie, 2004; Connolly & Joly, 2012). While the outcomes of SBOA relative to service connection, substance use and mental health are reported elsewhere (Guo & Slesnick, 2017; Slesnick et al., 2016), our study investigates changes in employment and income sources. As a result of the evaluation, we expected to find an increase in employment, as well as income from employment and non-survival behaviors, and a decrease in income from survival behaviors.

Methods

Participants

Recruitment of homeless youth ($N = 79$) occurred in homeless camps, the library, a church sandwich line, and other locations in which homeless youth hang out in Columbus, Ohio. Research assistants (RA's) approached 128 youth, 83 (65%) of whom met eligibility criteria for the study and 79 (95% of those eligible) agreed to participate. Eligible participants were unaccompanied homeless youth between the ages of 14 to 24 years; those who reported continuous homelessness for the prior three months, and those with no service contact with a shelter, drop-in center or substance use/mental health treatment program during that period; as well as self-reporting at least six uses of alcohol or drugs in the prior 30 days.

Procedure

RA's approached and screened youth during outreach. Youth reviewed and signed an informed consent (if aged 18 to 24 years) or an assent statement (if between 14 and 17 years of age) and completed the baseline assessment, which required about one hour. The local Institutional Review Board (IRB) approved a waiver of parental consent for those youth under the age of 18 years. All youth received SBOA. Using a computerized program, research staff randomly assigned youth to access a shelter or a drop-in center, in addition to any other needed services (see Slesnick et al., 2016). For youth assigned to the shelter condition, the advocate helped them access the shelter (accompanied them to the shelter, assisted with paperwork, etc), and for the drop-in center condition, the advocate helped them access the drop-in center in the same way. Follow-up assessment interviews occurred at 3, 6, and 9 months post-baseline, using an intent to treat design. Participants received a \$40 Walmart gift card at the completion of each assessment battery, and a \$5 food gift card for each advocacy session attended. The Ohio State University's Institutional Review Board approved all research procedures.

Strengths-Based Outreach and Advocacy (SBOA) Intervention—SBOA included 6 months of advocacy to encourage and assist youth in receiving needed services. Some youth required more advocacy meetings than others in order to accomplish agreed upon tasks and, as a result, the number of advocacy meetings was not limited. The advocate took

responsibility for securing needed services for the youth and remained a support as they navigated the system of care. Similar to the Strengths Model, the role of the advocate falls somewhere between that of a therapist and a broker who helps them navigate services in the system (Rapp & Chamberlin, 1985). The strengths-based outreach approach also includes the following features: 1) dual focus on the client and environment, 2) use of paraprofessional personnel, 3) a focus on client strengths rather than deficits, and 4) a high degree of responsibility given to the client in directing and influencing the intervention that they receive from the system and the advocate. On average, over 6 months, youth met with their advocates 14.3 times ($SD = 12.6$, range 0 to 67 times). Typically, youth met with their advocates more frequently in the first month, with frequency of meetings tapering over time. After three months of advocacy, 25% of youth engaged in employment services, and after 6 months, 29% of youth engaged with these services.

Measures

Demographic variables—A baseline questionnaire assessed participants' age, race/ethnicity (coded as 1 = White, non-Hispanic, 0 = other race/ethnicities), sex (1 = female, 0 = male), and history of foster care (coded as 0 = no, 1 = yes).

At baseline, 3, 6, and 9 months, RA's assessed employment status and income from paid employment, survival behaviors (both legal and illegal sources), and non-survival behaviors (legal sources). The RA asked youth about their current employment status. Paid employment included full- and part-time employment, seasonal jobs, and day labor. Youth reporting paid employment received a "1", designating their paid employment status, and a "0" if they were not employed in any kind of paid work. RA's assessed income from employment by the total dollar amount obtained through full- and part-time employment, seasonal jobs, and day labor. We calculated income from survival behaviors in the past three months by summing up the dollar amount of income from sources such as panhandling, selling personal possessions, selling blood or plasma, dealing drugs, sex work, and theft. Also, we calculated income from non-survival behaviors in the past three months by summing up the dollar amount of income from sources such as employment, friends and relatives, and government assistance.

RA's assessed youth alcohol, marijuana, and polydrug use using the *Addiction Severity Index*, 5th Edition (ASI; McLellan et al., 1992). The ASI assesses the frequency, type and amount of alcohol, marijuana, and other drug use in the past 30 days. RA's administered the ASI at baseline, 3-, 6-, and 9-months post-baseline.

RA's assessed housing stability in the past three months at baseline, 3-, 6- and 9-months by asking how on many days youth stayed in their own room or apartment. In this study, stable housing refers to youth paying rent for their own room or apartment.

RA's assessed mental health status at each assessment point using the *Short-Form 36 Health Survey*. This survey is a multi-purpose short-form survey used as a general assessment of physical and mental health status. The survey uses 36 items to develop eight scale scores that are then combined to estimate an overall mental health score and an overall physical health score, with higher scores indicating better health status. The measure shows high reliability

and validity (Ware, Snow, Kosinski, & Gandek, 1993). We examined the effects of youth's overall mental health status on income using four scales evaluating participants' vitality, social functioning, emotional problems, and depression or nervousness. We assessed the reliability of the overall scale score at baseline, 3, 6, and 9 months resulting in alphas of .89, .89, .87, and .89, respectively.

RA's assessed childhood abuse history at baseline. Following a method used by Bonomi and colleagues (Bonomi, Cannon, Anderson, Rivara, & Thompson, 2008), RA's asked youth about their experiences of sexual abuse prior to age 18 using two questions: (1) Have you ever been kissed in a sexual way or touched in a way that made you uncomfortable? and (2) Has anyone had oral, anal, or vaginal intercourse with you or inserted a finger or object in your anus or vagina? We assigned a score of "1" to a "yes" response to either item, indicating the experience of sexual abuse. In order to assess physical abuse, RA's asked youth whether anyone had ever hit, punched, kicked, shaken, tortured, or otherwise physically hurt them. We assigned a score of "1" to any "yes" response, indicating the experience of physical abuse.

Overview of Analyses

We examined the change trajectories of employment status and income from non-survival behaviors (legal sources) across the four time points using hierarchical linear modeling (HLM; Raudenbush, Bryk, & Congdon, 2011). We coded employment status as a binary outcome variable (1 = employed and 0 = not employed), and modeled it as a random-effects logistic growth model. Due to skewness, we square-root transformed income from non-survival behaviors. First, we estimated the unconditional model with time as the only Level-1 predictor. Then, we estimated the conditional model with time-varying covariates including substance use (i.e., alcohol, marijuana, and polydrug use), mental health status, and housing stability added to Level 1 of the model. We added participants' race, sex, childhood abuse history, foster care experiences, and LGBTQ status to Level 2 of the model. Also, we added service linkage condition (drop-in vs. shelter) to Level 2 of the model in order to control for its effects on employment-related services.

Given that income from survival behaviors (both legal and illegal sources) included a preponderance of zeros across the four time points, we performed a two-part latent growth model (LGM) (Muthén, 2002; Olsen & Schafer, 2001). The model decomposed the distribution of income into two parts and was modeled by separate but correlated growth functions. In Part 1 of the model, we created a binary variable to distinguish between obtaining income from any survival behaviors (coded as 1) versus no income from survival behaviors (coded as 0). We categorized any positive level of income from survival behaviors as "1" and modeled Part 1 as a random-effects logistic growth model. We modeled Part 2 of the model examining the growth trajectory of income from survival behaviors as a traditional LGM. Similarly, because income from employment also included a preponderance of zeros across the four time points, we performed a two-part LGM. In the conditional model, we added substance use (i.e., alcohol, marijuana, or polydrug use), housing stability, and mental health status to Level 1 of the model as time-varying covariates. We added all other time-invariant variables including service linkage condition, participants' race/ethnicity, sex,

childhood physical and sexual abuse, LGBTQ status, and having ever been in foster care to Level 2 of the model.

Results

Table 1 presents a summary of characteristics of our sample. During the past 12 months, youth stayed 41.3 nights, on average, in their own stable housing. Fifteen youth (19%) identified as LGBTQ. We obtained high follow-up completion rates of 87%, 89%, and 91% at the 3-, 6-, and 9-month assessments, respectively. We used full information maximum likelihood in the Mplus software (Muthén & Muthén, 1998–2012) to estimate missing data when performing the analyses. Table 2 presents the means and standard deviations for employment status, income from employment, survival and non-survival behaviors, mental health status, housing stability, and drug use across the four time points. Also, at baseline, youth obtained an average of 42% of their income from non-survival behaviors (legal sources) through paid employment. By 9 months, youth obtained 48% of their income through paid employment. Table 3 and 4 presents the results of conditional models for paid employment, as well as income employment, survival behaviors, and non-survival behaviors. We removed the nonsignificant covariates from the final model.

Employment

In the unconditional model, we observed increased employment among youth over time ($B = 0.36, p < .05$). The conditional model showed that housing stability and mental health status changed with employment. Specifically, we observed higher odds of employment with improved housing stability ($B = 0.02, p < .001$) and mental health status ($B = 0.07, p < .01$). We found no significant time-invariant predictors at Level 2.

Income from employment

We estimated the unconditional model of Parts 1 and 2 with time as the only predictor at Level 1. The unconditional model approached significance in the increase in income obtained from employment ($B = 0.25, p = 0.09$) in Part 1. We observed a marginally significant positive association between housing stability and the likelihood of obtaining income from employment ($B = 0.01, p = 0.07$). We observed a significantly increased likelihood of obtaining income from employment with increased marijuana use ($B = 0.05, p < 0.01$). At Level 2 of the model, we observed that a history of foster care significantly predicted a decreased likelihood of obtaining income from employment ($B = -0.68, p < 0.05$).

Income from non-survival behaviors (legal sources)

The unconditional model showed that youth exhibited a significant increase in income from non-survival behaviors ($B = 3.31, p < 0.01$). The unconditional model also showed significant increase in housing stability with increased income ($B = 0.07, p < 0.05$) and increased marijuana use and increased income ($B = 0.21, p < 0.05$). We did not find significant time invariant predictors at Level 2.

Income from survival behaviors (both legal and illegal sources)

We simultaneously estimated the unconditional model of Parts 1 and 2 with time as the only predictor at Level 1. The unconditional model showed that youth exhibited a significant decrease in likelihood of obtaining income from survival behaviors over time ($B = -.79, p < .001$) in Part 1. Additionally, the amount of the income from survival behaviors declined over time ($B = -.30, p < .001$) in Part 2. In the conditional model we observed a significant association between increased housing stability and a decreased likelihood of obtaining income from survival behaviors ($B = -.01, p < .05$). Further, we found a significant association between increased polydrug use and an increased likelihood of obtaining income from survival behaviors ($B = .05, p < .01$), as well as improved mental health status and a decreased amount of income ($B = -.04, p < .01$). At Level 2 of the model, race/ethnicity significantly predicted the slope factor. That is, White youth reported significantly more income from survival behaviors over time ($B = 0.68, p < .05$).

Discussion

Steady income is considered necessary for exiting street life and becoming self-sustainable. While service programs primarily focus on employment for income generation, many homeless youth do not access programs such as shelters and drop-in centers, and are thus excluded from available employment services. Furthermore, homeless youth generate income from multiple legal and illegal sources (Ferguson et al., 2011), but researchers do not fully understand how these income sources change over time. We sought to increase understanding of income sources among homeless youth disconnected from services, and how employment and other income sources change over time through engagement with an advocate. Given that non-service connected youth are vulnerable to continuing homelessness into adulthood, efforts to understand and intervene in youth's efforts towards stabilization are essential.

Overall, we demonstrated that employment among homeless youth increased significantly over time (from 20% at baseline to 38% at 9-month follow-up), with income from non-survival behaviors (legal sources) increasing by \$296 (from \$874 to \$1170 quarterly) and income from survival behaviors decreasing by \$607 (from \$679 to \$72 quarterly). When looking at income solely from employment, income showed an increasing trend. We observed the most dramatic change in the reduction of income from survival behaviors, suggesting that when working with service-disconnected youth, advocacy is especially effective at reducing these types of activities. In this sample, the most frequently reported income from survival behaviors included panhandling, selling personal possessions, selling blood or plasma, dealing drugs, sex work, and theft. In addition to helping youth connect with drop-in or shelter services, advocates helped youth obtain identification cards needed for legal employment, connected youth with employment services, and also helped youth obtain government benefits. Possibly, acquisition of needed documents to help youth engage in legal employment options and services, along with receipt of government entitlements, rendered the survival strategies unnecessary.

Similar to other's findings (Lenz-Rashid, 2006), we observed significant links between improved mental health, increased employment and decreased income from survival

behaviors. Mental health problems served as a barrier for employment and increased youth's likelihood of engaging in survival behaviors. These findings suggest a need to address mental health issues concurrently with employment, especially given that homelessness is associated with increased stress that can exacerbate mental health vulnerabilities (Gaetz, 2004). The connection to an advocate likely reduces stress and increases hope, as the advocate assists the youth in whatever capacity the youth requests such as connection to services and emotional support. Other research similarly reports that integrating clinical and employment services is successful at improving both mental health and employment outcomes among homeless youth (Ferguson et al., 2012).

Findings showed an association between increased housing stability, increased probability of obtaining income from employment, and a decreased probability of obtaining income from survival behaviors, confirming that residential stability is an essential component in youth's ability to obtain and maintain employment. Furthermore, supporting findings from prior research (Lenz-Rashid, 2006), foster care youth reported less income from employment than other youth, and we observed a higher likelihood of White youth receiving income from survival behaviors than minority youth. In this sample, White youth reported more opioid use than non-White youth, possibly correlated with the higher number of reported survival behaviors. However, more research is needed to clarify reasons underlying these findings.

The current sample reported high levels of drug use, with all youth reporting past month drug use. However, the percentage of youth reporting polydrug use declined from 77% at baseline to 38% at 9 months. Findings showed that increased polydrug use increased the likelihood of obtaining income from survival behaviors. We observed an association between polydrug use and change in income. As polydrug use increased over time, so did income from survival behaviors. In contrast, as marijuana use increased over time, so did income from both employment and non-survival behaviors, highlighting marijuana use as a driver of income generation for homeless youth.

Prior studies indicate that more transient, service-disconnected youth avoid employment services (Barman-Adhikari & Rice, 2014), and our study showed that less than one-third of youth engaged with employment services. However, we did not observe an association between employment services and later employment or other income generation. Possibly, most youth do not seek or maintain employment while experiencing homelessness because their focus is on where they will sleep, eat and remain safe any given night. Furthermore, substance use and mental health struggles appear to hinder obtaining and maintaining employment. Professionals working to serve homeless youth, such as shelter or drop-in workers, may need to address the barriers to employment and focus on removing income from survival behaviors as important first targets of employment interventions for this population of youth.

Our study has some limitations. The advocates in our study assisted youth with their goals which may or may not have included assistance with employment or other income generation, as the client directed the intervention goals. Because we did not include a control for time, we cannot know whether advocacy, time or other factors led to the observed positive outcomes. A small sample size reduced our statistical power to observe other

potentially significant relationships among variables. And finally, the youth in our study, who reported significant drug use, service disconnection, and at least three continuous months of homelessness, may represent some of the most vulnerable, disenfranchised youth.

Despite these limitations, our findings add to the literature by providing information on income sources and employment among non-service connected homeless youth. Further, engagement with an outreach worker appears especially effective at reducing income from survival behaviors, although employment and other legal income sources also increased. Unemployment remained high among youth at the 9-month follow-up (62%). While employment is often a major focus of homeless intervention programs, our findings suggest that a focus on addressing substance use and mental health issues is important for improving employment rates.

Our study has several practice implications. Reviews of intervention with homeless youth conclude that few researchers develop and test interventions for homeless youth, and researchers know little about what works to assist these youth across a range of outcomes (Slesnick, Dashora, Letcher, Erdem, & Serovich, 2009; Xiang, 2013). As such, our study indicates that SBOA is an effective strategy for finding and engaging the most vulnerable, non-service connected homeless youth into services. Specifically, our study shows that interventionists can engage these vulnerable youth in services that help them move towards greater social engagement, including legal income sources. Engagement with a supportive advocate begins to repair past negative experiences with others, and can plant the seed for the development of hope, self-efficacy, and future orientation. As the relationship between the youth and advocate developed, most youth became willing to engage with various service programs, as well as with the broader social group. The intervention does not require an office or advanced degree among advocates, facilitating dissemination in communities with few resources specific to young people experiencing homelessness. Even in service-rich communities, the intervention targets those youth who avoid traditional homeless service programs, an overlooked group in great need of assistance.

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Table 1

Characteristics of the current sample

Variable	<i>n</i> (%)	Mean (<i>SD</i>)
Age		20.84 (2.1)
Sex		
Female	37 (46.8)	
Male	42 (53.2)	
Race/ethnicity		
White not of Hispanic origin	45 (57.0)	
Other	34 (43.0)	
Childhood abuse history		
Physical abuse	36 (45.6)	
Sexual abuse	33 (41.8)	
Having ever been in foster care	26 (32.9)	
The number of nights participants stayed in different settings over the past 365 days:		
In stable housing (paying rent)		41.32 (92.09)
With family members in their home		89.10 (115.74)
With friends in their home		94.42 (107.59)
With romantic partner in his/her home		18.59 (51.23)
In a shelter or mission		6.97 (30.82)
In abandoned building		11.09 (46.74)
In jail		8.38 (22.77)
Someplace indoors (e.g., a bus or a train station)		4.38 (26.57)
Someplace outdoors (e.g., on the street or in a park)		71.94 (105.39)
In a residential treatment program		6.89 (28.51)

Table 2

Descriptive statistics of the study variables

Variable	Mean (SD)	Range	n (%)
Employed (full or part time)			
Baseline			16 (20.3%)
3 months			18 (22.8%)
6 months			21 (26.6%)
9 months			30 (38.0%)
Income from employment in the past 3 months			
Baseline	578.24 (1125.30)	0.00 – 5000.00	
3 months	526.95 (955.98)	0.00 – 4500.00	
6 months	697.73 (1418.40)	0.00 – 8500.00	
9 months	760.18 (1042.03)	0.00 – 4000.00	
Income from non-survival behaviors (legal sources) in the past 3 months			
Baseline	874.82 (1255.82)	0.00 – 6241.00	
3 months	848.25 (1003.88)	0.00 – 4500.00	
6 months	1212.78 (1824.59)	0.00 – 10800.00	
9 months	1170.49 (1111.14)	0.00 – 4600.00	
Income from survival behaviors (legal and illegal sources) in the past 3 months			
Baseline	679.34 (1391.29)	0.00 – 7205.00	
3 months	408.81 (1745.09)	0.00 – 13500.00	
6 months	166.43 (696.08)	0.00 – 6005.00	
9 months	72.06 (187.73)	0.00 – 1000.00	
Housing stability in the past 3 months (nights stayed in own room and apartment, pay rent)			
Baseline	4.01 (14.32)	0.00 – 60.00	
3 months	12.00 (27.56)	0.00 – 90.00	
6 months	16.53 (31.21)	0.00 – 90.00	
9 months	27.26 (39.51)	0.00 – 90.00	
Mental health ^a			
Baseline	43.15 (10.80)	19.00 – 67.00	
3 months	48.35 (11.00)	19.00 – 67.00	
6 months	53.34 (9.78)	33.00 – 70.00	
9 months	54.38 (10.24)	20.00 – 70.00	
The number of days of alcohol use in the past 30 days			
Baseline	8.03(8.99)	0.00 – 30.00	
3 months	4.27(6.82)	0.00 – 30.00	
6 months	3.60 (6.64)	0.00 – 30.00	
9 months	4.39 (7.61)	0.00 – 30.00	
The number of days of marijuana use in the past 30 days			
Baseline	19.84 (11.99)	0.00 – 30.00	
3 months	18.47 (12.76)	0.00 – 30.00	
6 months	12.48 (13.74)	0.00 – 30.00	

Variable	Mean (SD)	Range	<i>n</i> (%)
9 months	13.54 (13.81)	0.00 – 30.00	
The number of days of polydrug use in the past 30 days			
Baseline	10.66 (10.41)	0.00 – 30.00	
3 months	7.03 (9.02)	0.00 – 30.00	
6 months	4.75 (8.78)	0.00 – 30.00	
9 months	4.73 (8.60)	0.00 – 30.00	

^a Mental health is a composite score generated by the Short-Form 36. The mean score across four time points represents the average level of mental health. Higher scores represent better mental health outcomes.

Table 3

Results of conditional hierarchical linear models for employment status and income from non-survival behaviors

	Employment		Income from non-survival behaviors	
	<i>B</i> (<i>SE</i>)	<i>t</i>	<i>B</i> (<i>SE</i>)	<i>t</i>
Fixed effects				
Intercept				
Intercept			15.40(3.31)	4.65***
Mental health	0.07 (.02)	3.19**		
Housing stability	0.02 (.01)	3.61***	0.07 (0.03)	2.13*
Marijuana use			0.21 (0.09)	2.50*
Linear slope				
Intercept	-0.02 (.20)	-0.11	3.31(1.00)	3.30**
Random effects				
Intercept	1.03(1.07)	0.96	44.46 (26.10)	1.70
Linear slope	0.14 (0.14)	1.03	1.96 (3.16)	0.62
Level 1 residual variance			258.572 (30.75)	

*
 $p < .05$.

**
 $p < .01$.

 $p < .001$.

Table 4

Two-part modeling results for income from employment and survival behaviors

	Income from employment		Income from survival behaviors	
	<i>B</i> (SE)	<i>t</i>	<i>B</i> (SE)	<i>t</i>
Part 1 of the model				
Fixed effects				
Intercept				
Intercept				
Mental health			−0.00(0.02)	−0.04
Housing stability	0.01(0.01)	1.83	−0.01(0.01)	−2.07*
Polydrug use			0.05(0.02)	2.63**
Marijuana use	0.05(0.02)	3.46**		
Linear slope				
Intercept	0.68(0.22)	3.09**	−0.41(0.27)	−1.54
Foster	−0.68(0.34)	−1.99*		
Random effects				
Intercept	1.27(0.87)	1.46	1.52(1.15)	1.32
Linear slope	0.13(0.14)	0.97	0.16(0.18)	0.87
Part 2 of the model				
Fixed effects				
Intercept				
Intercept	6.04(0.40)	14.97***	7.97(0.71)	11.32***
Mental health			−0.04(0.01)	−3.37**
Housing stability	0.01(0.00)	1.74	0.00(0.01)	0.30
Polydrug use	0.01(0.01)	1.30	0.03(0.02)	1.72
Linear slope				
Intercept	0.06(0.13)	0.46	−0.40(0.12)	−3.21**
Ethnicity			0.68(0.28)	2.47*
Random effects				
Intercept	0.06(0.17)	0.36	0.49 (0.33)	1.52
Linear slope	0.02(0.02)	0.68	0.02(0.04)	0.57
Level 1 residual variance	1.26(0.08)		1.53(0.32)	

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