

Do Independent Living Services Protect Youth Aging Out Foster Care From Adverse Outcomes? An Evaluation Using National Data

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Abstract

Objective: Youth aging out foster care are at high risk of experiencing adverse outcomes. Federal funded programs have provided independent living services (ILSs) to these youth. This study evaluated the effectiveness of the continuity of ILSs at ages 17–19 in protecting youth aging out foster care from homelessness and incarceration at ages 19–21. **Method:** This study used data on 4,853 foster youth from the National Youth in Transition Database and the Adoption and Foster Care Analysis and Reporting System. Logistic regression was used to regress two binary outcomes on seven ILS variables and covariates. **Results:** The results suggest that remaining in foster care, continuous receipts of academic support, and financial assistance services at ages 17–19 protected foster youth from experiencing homelessness. Remaining in foster care and continuous receipt of financial assistance services at ages 17–19 protected foster youth from incarceration at ages 19–21. But, surprisingly, continuous receipt of housing education and home management training, and health education and risk prevention training at ages 17–19 were each associated with increased risk of homelessness at ages 19–21. The results also showed statistically significant effects of several covariates. **Conclusion:** Implications are provided based on the importance of financial assistance and academic support services.

Keywords

youth aging out foster care, independent living services, homelessness, incarceration

Introduction

Federally funded programs have become available in the last two decades to support youth aging out foster care. Using national data, this study examines the effectiveness of independent living services (ILS) on preventing adverse outcomes of homelessness and incarceration among youth aging out foster care. In the introduction, we review existing studies on challenges facing youth aging out foster care and the impacts of ILS on youth outcomes, and identify gaps in existing studies.

Challenges Facing Transition-Aged Youth in Foster Care

When youth in foster care transition out of the child welfare system without enough support, they often face harsh consequences such as low education and employment attainments (Day et al., 2011; Okpych & Courtney, 2014), homelessness (Curry & Abrams, 2015; Dworsky et al., 2013), mental health (Schelbe, 2018), and substance use problems (Braciszewski & Stout, 2012). Specifically, youth aged out of foster care were found to be more likely to drop out of college than low-income, first-generation college students and less likely to be employed than their non-foster youth peers with the same educational

attainment (Courtney et al., 2007; Day et al., 2011; Okpych & Courtney, 2014). Studying 659 young adults who aged out of foster care from two public and one private child welfare agencies in two Northwest states including Washington and Oregon (called “the Northwest Foster Care Alumni Study”), Pecora and colleagues (2006) reported that only 20.6% of their study participants completed any degree/certificate beyond high school (vocational, associate’s, or beyond) at the time of interview when they were aged 20–33. Studying 596 young adults who aged out of foster care in three Midwest states including Illinois, Iowa, and Wisconsin (called “the Midwest Study”), Courtney and colleagues (2011a) reported that by the age of 26, only 11% of women and 5% of men obtained an associate’s

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degree or higher. Youth aged out foster care have relatively high rates of homelessness (Curry & Abrams, 2015). A longitudinal study (Tyrell & Yates, 2017) reported that 12% of the aged-out youth experienced homelessness immediately after aging out. Researchers of the Northwest Foster Care Alumni Study (Pecora et al., 2006) reported that 22.2% of their participants experienced homelessness within a year of leaving care. Researchers of the Midwest Study (Dworsky et al., 2013) reported that by the age of 26, as much as 46% of youth aged out of foster care had been homeless at least once. Youth aged out of foster care are also at high risk of being involved in legal problems. Researchers of the Midwest Study (Courtney et al., 2011a) reported that when interviewed at age 26, one-third of males and 18% of females reported engaging in illegal behaviors in the past year. Researchers of the Midwest Study (Cusick et al., 2010) also reported that aged-out youth had higher rates of legal system involvement than youth in the general population. In California, 27% of young inmates experienced a foster care placement (Research Services Branch, 2014). Finally, substance use problems are prevalent among youth aged out of foster care (Braciszewski & Stout, 2012). Researchers of the Midwest Study (Courtney et al., 2011a) reported that when interviewed at age 26, 25% of their study participants reported using illicit drugs in the past year.

Service experiences in foster care and individual characteristics are associated with outcomes of transition-aged youth in foster care. Specifically, placement instability is associated with lower education attainment (Pecora et al., 2006) and homelessness (Dworsky et al., 2013); staying in extended foster care is associated with a lower risk of homelessness (Kelly, 2020; Prince et al., 2019), arrest (Lee et al., 2014), and incarceration (Prince et al., 2019); receiving resources upon leaving care (i.e. a driver's license, cash, and dishes and utensils) are associated with higher education attainment and lower risk of experiencing homelessness, unemployment, receiving public assistance, and poverty (Pecora et al., 2006); Having a child is associated with a lower risk for arrest among female youth transitioning out of foster care (Lee et al., 2014); having a connection to an adult is associated with a lower risk of homelessness (Kelly, 2020; Prince et al., 2019); having mental health symptoms is associated with a greater risk of homelessness among youth transitioning out of foster care (Dworsky et al., 2013) and arrest among male youth transitioning out of foster care (Lee et al., 2014); having emotional disturbance is associated with a greater risk of homelessness (Kelly, 2020); having any physical, intellectual disability or emotional disturbance is associated with lower odds of being enrolled in post-secondary education and employment (Kim et al., 2019); males transitioning out of foster care have a greater risk of experiencing homelessness (Dworsky et al., 2013) and incarceration (Dworsky et al., 2013; Watt & Kim, 2019) than their female peers; black youth have a greater risk of experiencing incarceration (Prince et al., 2019; Watt & Kim, 2019) and homelessness than white youth (Prince et al., 2019); Latino youth have a greater risk of experiencing incarceration than white youth (Prince et al., 2019).

Impacts of ILS on Outcomes

The Federal Fostering Connections to Success and Increasing Adoptions Act of 2008 gave states the option to keep youth in foster care in the system until they turn 21, with continued federal funding to support a successful transition to adulthood for these youth (Fernandes, 2008). Meanwhile, states have adopted the federally-funded Chafee Foster Care Independence Program (CFCIP) and provided independent living services (ILS; such as employment services, outreach services, life skills training, and tutoring/mentoring services) to youth who are currently or were formerly in foster care, and are between the ages of 14 and 21, or up to age 23 in states that extend foster care to age 21 (Congressional Research Service, 2019).

However, studies on the impacts of ILS reported mixed findings. Several earlier studies used randomized controlled trials (RCT) at different sites across the United States to examine the impacts of ILS on outcomes among youth aging out foster care. Using data from an RCT in Kern County, California, Courtney et al. (2011c) reported no significant differences between the control group and the experimental group in terms of employment, economic well-being, housing, and delinquency outcomes. However, Courtney et al. (2011b) also reported that providing outreach services to youth in intensive foster care was found to be effective in promoting college enrollment and persistence toward graduation. Another RCT study conducted in Los Angeles County did not find any significant impact of tutoring services on educational outcomes, such as school grades, school-related behavior problems, and educational attainment (Administration for Children and Families, 2008a). Also, Los Angeles youth in foster care who were randomly assigned to a life skills training group did not show any significant difference in key outcomes, including employment, education, economic well-being, housing, and delinquency (Administration for Children and Families, 2008b). In a more recent RCT study, researchers found that providing mentoring services to youth in foster care (specifically the My Life Model) was effective in preventing criminal justice involvement in young adulthood (Blakeslee & Keller, 2018). Other researchers who used non-experimental designs have also reported no statistically significant effects of ILS provision on youth outcomes. For example, Fowler et al. (2017) did not find any significant effects of ILS and extended foster care on homelessness prevention based on data from the National Survey of Child and Adolescent Well-being Study. Similarly, a qualitative study reported that receiving housing and other services did not reduce the likelihood of aging out youth to struggle in education, employment, and mental health (Schelbe, 2018).

Studies Using the NYTD Data

The National Youth Transition Database (NYTD) is another component of CFCIP, which was collected by requiring states that implement the CFCIP to collect ILS use data and track various outcomes among youth aging out of foster care. Since NYTD was made available to the public in 2012, researchers

have increasingly taken advantage of this national data to study youth aging out foster care. Some have studied the patterns in receipt of ILS among youth in foster care in transition. For example, using multi-level latent class analysis, Chor et al. (2018) identified three mutually exclusive profiles including: high service receipt, limited service receipt, and independent living assessment and academic support. The authors reported that nearly half of ILS recipients belong to the third profile, receiving only independent living needs assessment and academic support (Chor et al., 2018). Meanwhile, Okpych (2015) found that about half of all youth in foster care in transition received at least one type of ILS and the likelihood of service receipt was influenced by sex, race/ethnicity, state residence, and residential areas.

Most studies using NYTD data examined the impacts of individual risk factors on youth outcomes. For example, homelessness was found to be a barrier for achieving educational and occupational outcomes (Rosenberg & Kim, 2018), and incarceration and substance abuse referral were found to be risk factors for homelessness (Kelly, 2020). In addition, existing research has revealed racial/ethnic differences in youth outcomes including educational attainment, employment, homelessness, and incarceration (Prince et al., 2019; Watt & Kim, 2019). Other risk factors include individual characteristics such as male gender, child behavior problems, juvenile delinquency, and receipt of mental health or substance abuse services, and placement history related factors, such as unstable placement, residence in group homes, emancipation before age 19, residence in states with below-average ILS budget on housing supports, and residence in states with a higher proportion of housing-burdened low-income renters (Crawford et al., 2018; Prince et al., 2019; Shpiegel & Ocasio, 2015).

Several researchers used NYTD data to examine the impacts of ILS and reported that effects vary with the type of ILS services. Kim et al. (2019) found that among education related, employment related, and mentoring ILS, only education related ILS is positively associated with post-secondary education and employment. Watt and Kim (2019) reported that the number of ILS received by each youth between ages 19 and 21 is unexpectedly associated with less favorable education and employment outcomes and greater risk of homelessness and incarceration at ages 19–21. Lee and Ballew (2018) examined the effects of each type of ILS from age 17 to 19. They reported that youth receiving post-secondary education support and education financial services were more likely to work or attend school and less likely to be homeless or incarcerated at age 19, but unexpectedly, youth receiving special education and career services were less likely to work or attend school at age 19 (Lee & Ballew, 2018). Prince et al. (2019) used the NYTD data of the 2011 cohort of youth and reported no statistically significant association between the counts of wellbeing and financial services received at age 17 and adverse outcomes at age 19.

Gaps in the Literature and Research Questions

To date, most studies on youth aging out foster care studied the impacts of demographic, behavioral and placement history on

their outcomes (Courtney et al., 2011b; Cusick & Courtney, 2007; Day et al., 2011; Fowler et al., 2017; Greeno et al., 2019; Okpych & Courtney, 2014, 2017, 2018; Pecora, 2012; Schelbe, 2018; Stewart et al., 2014). Studies on the impacts of ILS have been limited, but the effectiveness of ILS has significant policy implications. RCT studies on ILS impacts (e.g., Blakeslee & Keller, 2018; Courtney et al., 2011c; Courtney et al., 2011b) used rigorous designs but treated ILS as a single variable in their analyses without examining the variation on types and continuity of ILS received by individual youth. Four NYTD studies on ILS impacts measured the variation of ILS but are limited in their research designs (Kim et al., 2019; Lee & Ballew, 2018; Prince et al., 2019; Watt & Kim, 2019). Specifically, two studies (Prince et al., 2019; Watt & Kim, 2019) captured the ILS experiences at only age 17 and a third study (Kim et al., 2019) captured the ILS experiences at age 17–18. None of the three studies captured the ILS experiences at age 19, when youth are still eligible for ILS in states with extended foster care. In addition, two studies (Lee & Ballew, 2018; Prince et al., 2019) measured outcome at age 19, an age when many youths are still in foster care, and therefore cannot indicate their success in achieving independence. To bridge the gaps in empirical research, this study examined whether the continuity of ILS experiences at ages 17–19 protects youth aging out foster care from homelessness and incarceration at ages 19–21.

Method

Data and Sample

We used data from the National Youth in Transition Database (NYTD) and the Adoption and Foster Care Analysis and Reporting System (AFCARS). The authors obtained both datasets from the National Data Archive on Child Abuse and Neglect (NDACAN). Since neither data set contains personal identifiable information (e.g., names, social security number, date of birth), this study was exempted from review by the Institutional Review Board of the first author's university. The purpose of NYTD data collection is to track services provided through CFCIP and evaluate the effectiveness of CFCIP (NDACAN, 2019a, 2019b). Therefore, NYTD contains two kinds of data: 1) service data, such as academic, financial assistance service receipts; 2) outcome data, such as employment, education, and homelessness. Service data and outcome data were collected through different approaches. Service data were submitted by the states every 6 months. Three waves of outcome data are collected through surveying youth every 2 years from age 17 to 21. The first wave of outcome data was collected from all youth in foster care at age 17, while the sampling strategy for the second and third waves of outcomes data collection varied between states. The second and third waves of outcomes data were collected from a random sample of the Wave 1 cohort in 15 states (e.g., Colorado, Georgia, Illinois) and from all youth in the Wave 1 cohort in 35 other states, District of Columbia, and Puerto Rico (NDACAN,

Table 1. Descriptive Analyses of Demographics and Placement Experience.

Variables	N	%
Demographics from AFCARS		
Race		
White	1897	39.1
Black	1351	27.8
Hispanic	1180	24.3
Other	425	8.8
Female	2779	57.3
Non-emotional Disability	458	9.4
Emotional Disturbance	1,923	39.6
Variables	M	SD
Placement experiences from AFCARS		
Number of placements	5.56	5.86

Note. $N = 4,853$.

2019a). To date, NYTD collected three waves of data from two cohorts: The first cohort was age 17 in 2011 (called the 2011 cohort) and the second cohort who was age 17 in 2014 (called the 2014 cohort). This study used data from the 2014 cohort.

AFCARS contains case-level information on all children in foster care and those who have been adopted with a state agency's involvement (NDACAN, 2016). The variables in AFCARS include child demographics, number of previous stays in foster care, dates of removal and discharge, funding sources, and data on parents and other caretakers.

We linked NYTD and AFCARS data using the shared ID. We identified our study sample by merging NYTD service data, NYTD outcome data, and AFCARS. NYTD service data contained the Year 2014 service data of 10,537 youth of the 2014 cohort. However, only 4,853 of them had no missing data on variables from AFCARS and the third wave of NYTD outcome data. We compared the 4,853 youth with no missing data to the remaining 5,684 youth with missing data, and found that it contained lower fractions of white (38.9% vs. 42.7%), black (26.9% vs. 28.8%), and unknown race (0.2% vs. 1.2%) but high fractions of Hispanic (23.9% vs. 19.6%) or other ethnicity (10.4% vs. 8.9%). We used the 4,853 youth as the final sample, who were from 48 out of 50 states and the District of Columbia. The sample did not include youth from Oregon, Tennessee, and Puerto Rico in the NYTD data, since none of them have matched records in AFCARS. The sample characteristics are presented in Table 1.

Measure

We extracted service variables and covariates from the years chronologically preceding the point in time when outcome variables were measured, with the purpose of testing causality. Specifically, we extracted service variables from the 2014 to 2016 NYTD service data on youths' service receipt at ages 17–19. We extracted outcome variables from the NYTD Wave 3 outcome data on their outcomes at ages 19–21. We also

obtained measures of covariates from the 2014 AFCARS data, which contains placement history until age 17 and demographic variables.

Dependent variables. Homelessness and incarceration are the two dependent variables of this study. They are binary variables extracted from NYTD Wave 3 outcome data, which asked youth to self-report their outcomes that occurred in the period after Wave 2 until Wave 3 (i.e., between ages 19 and 21). Homelessness refers to having no regular or adequate place to live, including situations where the youth is living in a car or on the street, or staying in homeless or other temporary shelters (NDACAN, 2019a). Incarceration refers to confinement in a jail, prison, correctional facility, or juvenile or community detention facility in connection with allegedly committing a crime, including a misdemeanor or a felony (NDACAN, 2019a).

ILS variables. Using the NYTD service data, we extracted seven ILS variables: remaining in foster care, three types of tangible ILS, and three types of life skills training. We grouped specific services into three types of tangible ILS including: academic support, employment support, and financial assistance (NDACAN, 2019b). Academic support includes two services: academic support for high school or GED completion, and post-secondary support for applying for or studying at college. Employment support includes two services: career preparation service, such as identifying potential employers and completing job applications, and employment programs and vocational training, such as apprenticeship and auto mechanics skills training. Financial assistance includes three types of services: room and board financial assistance, education financial assistance, and other financial assistance.

We also include three types of life skills training: budget and financial management, housing education and home management, and health education and risk prevention. Budget and financial management includes trainings on budgeting, balancing a checkbook, and developing consumer awareness and smart shopping skills; trainings on opening and using a checking and savings account, accessing information about credit, loans, and taxes, and filling out tax forms. Housing education and home management include locating and maintaining housing, managing housework, such as grocery shopping, food preparation, laundry, and housekeeping. Health education and risk prevention are about healthy lifestyles (e.g., fitness and exercise), medical and dental care benefits, sex education, and substance abuse prevention and intervention.

We used two steps of computation to measure continuity of ILS at ages 17–19. Firstly, we computed the percentage of service records indicating service receipts. For example, if a youth has four records in the NYTD service data, and two of these records indicated receipt of career preparation service, her percentage of career preparation service receipt is 50%. This method takes into consideration variations in the number of service records between individuals. Secondly, we computed the average percentage of service receipts within each type of

Table 2. Descriptive Analyses of Adverse Outcomes, Covariates, and Services in NYTD Data.

Variables	N	%		
Dependent Variables				
NYTD Outcomes at Wave 3				
Homelessness	1,429	29.4		
Incarceration	902	18.6		
			M	SD
Independent Variables on NYTD Services in 2014–2016				
Academic support service	38%	28%		
Employment support service	29%	28%		
Financial assistance service	22%	21%		
Budget and financial management	34%	36%		
Housing education and home management	35%	36%		
Health education and risk prevention	39%	36%		
Mentoring	20%	31%		
Staying in foster care	86%	22%		

Note. $N = 4,853$.

ILS. Each type includes several subtypes. For example, employment support service includes two subtypes: (1) career preparation service and (2) employment programs and vocational training. Thus, if 50% of a youth's records indicate receiving career preparation service and 100% indicate receiving employment programs and vocational training, the youth's average percentage of employment support receipt is computed to be 75%. This computation method is better than the method of treating ILS as dichotomous variables (Kim et al., 2019) or counts (Prince et al., 2019; Watt & Kim, 2019) used in previous studies, since it takes into consideration variations in the number of service records between individuals.

Covariates. Demographics and foster care experience related variables from AFCARS were included as covariates in the analysis. Sex indicates a youth's biological sex. Ethnicity indicates a youth's membership in one of four ethnicity groups: Non-Hispanic White, Non-Hispanic Black, Hispanic, and others. Non-emotional disability indicates a diagnosis of mental retardation, physical disability, or visual or hearing impairment. Emotional disturbance indicates an inability to build or maintain satisfactory interpersonal relationships, inappropriate types of behavior or feelings under normal circumstances, a general pervasive mood of unhappiness or depression, or a tendency to develop physical symptoms or fears associated with personal problems. Emotional disturbance indicates one or more mental disorders, such as autism, ADHD, conduct disorder, mood disorders. Non-emotional disability and emotional disturbance are included as two separate covariates in the models, since previous studies found that only emotional disturbance is associated with higher risk of homelessness (Kelly, 2020; Wagner et al., 2005). The number of placements indicates the number of places the child has lived during the removal episode when AFCARS data was collected (NDACAN, 2016).

Analytic Strategies

Logistic regression was used to model each of the two binary outcomes: homelessness and incarceration. We included three types of tangible ILS, three types of life skills trainings, mentoring, remaining in foster care, and five covariates in all models. We used listwise deletion in managing missing data.

Results

Descriptive Analyses

Results of descriptive analyses are presented in Table 2: 29.4% of the sample reported experiencing homelessness; 18.4% reported experiencing incarceration at ages 19–21.

On average, each youth was reported receiving academic support service in 38%, employment support service in 29%, financial assistance service in 22%, budget and financial management training in 34%, health education and risk prevention training in 35%, housing education and home management training in 39%, mentoring service in 20%, and foster care service in 86% of their semiannual service records.

Logistic Regression

The results of logistic regression were presented in Table 3. Regarding homelessness, remaining in foster care ($OR = 0.54$, $p \leq .001$), continuously receiving academic support service ($OR = 0.67$, $p \leq .01$), and financial assistance ($OR = 0.49$, $p \leq .001$) at ages 17–19 are associated with lower odds of homelessness at ages 19–21. However, receiving housing education and home management training ($OR = 1.45$, $p \leq .01$) and health education and risk prevention training ($OR = 1.30$, $p \leq .05$) are associated with greater odds of homelessness at ages 19–21. Covariates associated with odds of homelessness at ages 19–21 include: non-emotional disability ($OR = 0.73$, $p \leq .01$), emotional disturbance ($OR = 1.20$, $p \leq .01$), and the number of placements ($OR = 1.05$, $p \leq .001$).

Regarding incarceration, remaining in foster care ($OR = 0.58$, $p \leq .01$) and continuously receiving financial assistance ($OR = 0.22$, $p \leq .001$) at ages 17–19 is associated with lower odds of incarceration at ages 19–21. Covariates associated with odds of incarceration at ages 19–21 include: being female ($OR = 0.39$, $p \leq .001$) and the number of placements ($OR = 1.04$, $p \leq .001$).

Discussion

This study used the most recent national data to evaluate the effectiveness of continuous receipts of ILS at ages 17–19 in preventing adverse outcomes among youth in foster care at ages 19–21. The novel contribution of the current study is that we measured the continuity of ILS by using the percentage of records showing the receipt of each type of service, which adjusted for the variation on the number of available semiannual service records between individuals and have good measurement validity. Our findings showed that remaining in foster care,

Table 3. Logistic Regressions.

Variables	Homelessness			Incarceration		
	β	SE	OR	β	SE	OR
Remaining in foster care	−0.62***	0.15	0.54	−0.54**	0.17	0.58
Academic support service	−0.41**	0.15	0.67	0.10	0.18	1.11
Employment support service	−0.13	0.17	0.88	−0.33	0.20	0.72
Financial assistance service	−0.72***	0.17	0.49	−1.51***	0.22	0.22
Budget and financial management	−0.09	0.13	0.92	0.00	0.15	1.00
Housing education and home management	0.37**	0.12	1.45	0.17	0.14	1.18
Health education and risk prevention	0.27*	0.12	1.30	0.18	0.14	1.19
Mentoring	0.22	0.12	1.24	0.05	0.14	1.05
Race (Reference: White)						
Black	−0.08	0.08	0.93	0.06	0.10	1.06
Hispanic	−0.16	0.09	0.85	0.02	0.10	1.02
Other race	0.13	0.12	1.14	0.20	0.14	1.22
Female	−0.03	0.07	0.97	−0.95***	0.08	0.39
Non-emotional disability	−0.31**	0.12	0.73	−0.20	0.14	0.81
Emotional disturbance	0.19**	0.07	1.20	0.13	0.08	1.14
Number of placements	0.05***	0.01	1.05	0.04***	0.01	1.04
Constant	−0.50***	0.15	0.60	−0.63***	0.18	0.53

Note. $N = 4,853$.

* $p \leq .05$. ** $p \leq .01$. *** $p \leq .001$.

continuous receipts of academic support, and financial assistance services at ages 17–19 protected youth in foster care from experiencing homelessness. Also, remaining in foster care and continuous receipt of financial assistance services at ages 17–19 protected youth in foster care from incarceration at ages 19–21. But, surprisingly, continuous receipt of housing education and home management training, and health education and risk prevention training at ages 17–19 are associated with greater odds of experiencing homelessness at ages 19–21. We did not find statistically significant effects of employment support services, training on budget and financial management, and mentoring. Covariates of statistical significance include sex, disabilities, and placement instability.

Remaining in Foster Care

Our results showed that remaining in foster care at ages 17–19 is associated with lower odds of homelessness and incarceration at ages 19–21. This finding is consistent with previous studies (Kelly, 2020; Lee et al., 2014; Prince et al., 2019).

Remaining in foster care has a direct effect on preventing homelessness. Since youth remaining in foster care live in foster care placement paid for by public funding, they have lower risk of experiencing homelessness during this time than their peers who exited foster care (Dworsky et al., 2013). Moreover, since they do not need to pay rent while living in foster care placement, it is easier for them to save part of their financial assistance (e.g., monthly stipend), which they can use to pay rent in the future after they age out of extended foster care. Remaining in foster care can also have direct effect on preventing incarceration. The protective effects of remaining in foster care on preventing incarceration reported in this study might be

similar to its protective effects on preventing teenage pregnancy among transitioning foster youth reported in a previous study (Dworsky & Courtney, 2010). The authors (Dworsky & Courtney, 2010) suggested that foster youth remaining in foster care receive supervision from their foster parents or other caregivers and receive more advice about their behaviors, and therefore are less likely to experience teenage pregnancy. Similarly, it is possible that receiving supervision and advice from their foster parents or other caregivers can discourage youth from deviant behaviors and therefore prevent incarceration.

Financial Assistance Services

Our results showed that continuously receiving financial assistance at ages 17–19 is associated with lower odds of homelessness and incarceration at ages 19–21. Our measure of financial assistance includes room and board financial assistance, education financial assistance, and other financial assistance. Our finding is partially consistent with a study using the NYTD data of the 2011 cohort of youth (Lee & Ballew, 2018), which showed that receiving education financial assistance and other financial assistance (i.e., other than education, and room and board) at ages 17–19 are associated with lower odds of experiencing homelessness or incarceration at age 19. However, that study also reported that receiving room and board financial assistance at ages 17–19 is associated with higher odds of experiencing homelessness or incarceration at age 19. Another study of the 2011 cohort did not report an association between the number of financial services received at age 17 and adverse outcomes at age 19 (Prince et al., 2019).

The difference between our findings and previous studies might be related to the differences in the measurements and

samples used. First, we measured the continuity of ILS receipts at ages 17–19. Our measure of service continuity adjusted for the variation on the number of available semiannual service records between individuals by using the percentage of records showing the receipt of each type of service, and therefore has better measurement validity than previous studies (Kim et al., 2019; Prince et al., 2019; Watt & Kim, 2019), which did not take into consideration the variation on the number of available semiannual service records between individuals. Secondly, we measured adverse outcomes at ages 19–21, while previous studies measured adverse outcomes at age 19. We chose to measure adverse outcomes at ages 19–21 since youth had by then been exposed to ILS for the longest time possible, and their outcomes at ages 19–21 can better reflect the cumulative effects of ILS received at ages 17–19. Lastly, we used data from the 2014 Cohort, rather than the 2011 cohort studied in the previous studies (Lee & Ballew, 2018; Prince et al., 2019). It is possible that the 2014 Cohort is at greater risk of adverse outcomes due to the continuous rise of the opioid crisis since 1999 (Centers for Disease Control and Prevention, 2019).

Receiving financial assistance is crucial for youth aging out foster care to avoid adverse outcomes, since many of them live in poverty, which can increase the risk of adverse outcomes, such as homelessness and incarceration. Many previous studies reported that youth aging out foster care face greater economic hardship and food insecurity than their peers in the general population (Courtney et al., 2007, 2018; Dworsky, 2005; Stewart et al., 2014). Economic hardships of not being able to pay for rent and utilities can lead to homelessness. For youth struggling with paying for rent and utilities, receiving financial assistance especially room and board can help them avoid homelessness. Economic hardships of not being able to meet basic needs such as food can also increase the risk of involving in criminal activities, such as drug-related crime and prostitution, which are survival strategies used by individuals with limited support and skills (Ferguson et al., 2011). For youth struggling with basic needs, receiving financial assistance can prevent them from committing crimes to meet their basic needs.

Academic Support Services

Our results showed that continuously receiving academic support services at ages 17–19 is associated with lower odds of homelessness at ages 19–21. Our measure of academic support services includes academic support for high school or GED completion, and post-secondary support for applying for or studying at college. Our finding is consistent with a study of the 2011 cohort (Lee & Ballew, 2018), which found that receiving post-secondary education support at ages 17–19 is associated with lower odds of homelessness or incarceration at age 19.

Receiving academic support services is important for youth aging out foster care to engage in and advance in schoolwork, which can prevent them from homelessness. First, youth aging out foster care who get into college might have the option to stay in dormitories on campus. Many universities have campus

support programs serving students with foster care and/or homelessness experiences and offer housing vouchers for students in the programs to stay in dormitories at no or reduced costs (Huang et al., 2018). Second, youth aging out foster care who receive academic support are more likely to earn high school or equivalent degree, which in turn, can increase their likelihood to get jobs and have income to pay for housing cost.

Employment Support Services, Life Skill Trainings, and Mentoring

Our results did not show statistically significant effects of employment support service, training on budget and financial management, and mentoring. This finding is consistent with the study of the NYTD data of the 2011 cohort of youth conducted by Prince and colleagues (2019), who did not report a statistically significant association between the number of well-being services received at age 17 and adverse outcomes at age 19. Their measure of well-being services is a variable indicating the number of received education/academic, budget and home management, and health psychological support services. It was unexpected that housing education and home management, and health education and risk prevention are associated with greater odds of homelessness at ages 19–21, especially given that housing education includes assistance or training in locating and maintaining housing, including filling out a rental application and acquiring a lease, understanding tenant's rights and responsibilities, and handling landlord complaints. It is possible that youth who received these services were more likely to have needed assistance in these areas. For example, the reason why a youth received the housing education and home management service might be that she was facing homelessness and therefore, was more likely to seek out these services than youths who already had stable housing.

We suspect that the lack of statistically significant positive effects of these ILS can be related to the following factors. First, regarding employment support service and life skill trainings, the quality of these services provided in some agencies may be questionable. Some foster care providers have few of their own specialists in employment support and life skills training and rely on the specialists from state departments, case management agencies, or external providers to provide employment support and life skills training. In this case, employment and life skills training specialists from outside of agencies might have limited contacts with youth, and therefore tend to provide general services such as educational workshops, instead of one-on-one services that are consistently tailored to meet individual youth's needs. Second, regarding mentoring, the effect of this service might depend on youth's existing support system. That is, mentoring has greater effects on youth with no existing support system than youth with an existing support system. The vast majority youth in this sample (98%) reported having a connection to a supportive adult who he or she can go to for advice or guidance, or for companionship when celebrating personal achievements. To them, the positive effect of receiving mentoring might be marginal.

Covariates

Among covariates, we found that being female is associated with lower odds of incarceration, which is consistent with previous literature (Courtney et al., 2007; Courtney et al., 2018; Dworsky et al., 2013; Lee et al., 2012; Lee & Ballew, 2018; Prince et al., 2019). We also found that non-emotional disability is associated with lower odds of homelessness, while emotional disturbance is associated with higher odds of homelessness at ages 19–21. The finding on the relationship between emotional disturbance and homelessness is consistent with previous studies (Kelly, 2020; Wagner et al., 2005). However, previous studies did not report statistically significant relationship between non-emotional disability and homelessness. The relationship between non-emotional disability and homelessness found in this study might be result from specific publicly funded and widely available services to people with non-emotional disability, such as intellectual disability (Hill, 2012). Regarding placement experiences, having lived in more placements (i.e., placement instability) is associated with higher odds of homelessness and incarceration. Previous literature also reported the impacts of placement instability on increasing homelessness (Dworsky et al., 2013) and justice involvement (Lee et al., 2015; Ryan & Testa, 2005).

Limitations

This study has several limitations related to the data set and the sample. First, dependent variables on adverse outcomes are based on self-reported data from the NYTD outcome file. Some youth might have underreported their experiences of adverse outcomes due to social desirability. Second, ILS measures in the NYTD service file may be unreliable, due to differences in definitions of ILS and data entry procedures between states (Shpiegel, 2018). Third, 7% of youths in the sample ($N = 340$) had only one documented service record at ages 17–19. NYTD service file does not provide information on whether these youths continued to receive ILS services at other times. Their lack of at least one more service record limited the validity of our measure on the continuity of ILS among this group of youth. Fourth, our sample includes only youth with no missing data on independent and dependent variables. Although this approach was commonly used in previous studies using the NYTD data (Kelly, 2020; Kim et al., 2019; Watt & Kim, 2019), it is important to recognize its limitation. The final sample is not representative of the entire NYTD sample on sex and race/ethnicity distribution. Moreover, youth with non-missing data included in the final sample are likely to have the most stability as they could be tracked consistently over time (and were continuously willing to be interviewed). The limitations of this sample compromised the generalizability of findings from this study. Fifth, there is potential overlap between the timing of measuring service receipts and outcomes. That is, service receipts were measured at ages 17–19, and outcomes were measured at ages 19–21. Collection

of both data overlapped at age 19, which limited the validity of causal conclusion of this study.

Practice Implications

Despite the limitations, our findings have three practice implications. First, providing financial assistance to youth aging out of foster care is crucial to prevent them from adverse experiences in early adulthood. Many of them struggle with basic needs, such as food and rent. Unlike their peers with family support, youth aging out of foster care often come from impoverished families and receive limited financial support from their families. It is also difficult for them to support themselves, given their limited education and adverse experiences in the past. Therefore, policy and programs serving youth aging out of foster care need to prioritize providing them with financial assistance. Financial assistance can be provided through room and board financial assistance, education financial assistance, and other financial assistance, according to the needs of each youth. Receiving financial assistance can help youth aging out of foster care meet their basic needs and focus on other goals such as education.

Second, it is important to provide academic support service and support youth aging out of foster care to graduate from high school and even pursue higher education. Educational specialists of child welfare agencies can motivate youth aging out of foster care to graduate from high school by engaging them in future-oriented thinking and informing them how education impacts future earnings. Meanwhile, educational specialists can also inform youth of education financial resources, such as scholarships and financial aids. Many youth aging out of foster care who do not learn from their family about the importance of education and the availability of education financial resources can benefit from motivational and informational services.

Conclusion

Previous literature on ILS has been inconclusive about whether ILS significantly improves outcomes. These studies have suffered from limitations in their data sets and measures. This study is the first, current, nationally representative study that parses out the different types of services, and examines them over a longer period of time (age 17–19) than previous studies. Our findings showed the effectiveness of remaining in foster care, continuous receipts of financial assistance services and academic support at ages 17–19 on protecting youth aging out of foster care from experiencing adverse outcomes at ages 19–21. The findings highlight the importance of providing financial assistance services to youth aging out of foster care. Child welfare agencies should also motivate youth aging out of foster care to complete high school and educate them about the financial feasibility of pursuing higher education.

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References

- Administration for Children and Families. (2008a). Evaluation of the early start to emancipation preparation—tutoring program Los Angeles county: Final report.
- Administration for Children and Families. (2008b). Evaluation of the life skills training Program Los Angeles county, California: Final Report.
- Blakeslee, J. E., & Keller, T. E. (2018). *Extending a randomized trial of the My Life mentoring model for youth in foster care to evaluate long-term effects on offending in young adulthood (No. 251418)*. National Criminal Justice Reference Service.
- Braciszewski, J. M., & Stout, R. L. (2012). Substance use among current and former foster youth: A systematic review. *Children and Youth Services Review, 34*(12), 2337–2344. <https://doi.org/10.1016/j.childyouth.2012.08.011>
- Centers for Disease Control and Prevention. (2019). *Annual surveillance report of drug-related risks and outcomes—United States surveillance special report*. U.S. Department of Health and Human Services. <https://www.cdc.gov/drugoverdose/data/analysis.html>
- Chor, K. H. B., Petras, H., & Pérez, A. G. (2018). Youth subgroups who receive John F. Chafee foster care independence program services. *Journal of Child and Family Studies, 27*(5), 1402–1414. <https://doi.org/10.1007/s10826-017-1004-1>
- Congressional Research Service (2019). *John H. Chafee Foster Care Program for Successful Transition to Adulthood*. <https://fas.org/sgp/crs/misc/IF11070.pdf>
- Courtney, M. E., Dworsky, A. L., Cusick, G. R., Havlicek, J., Perez, A., & Keller, T. E. (2007). *Midwest evaluation of the adult functioning of former foster youth: Outcomes at age 21*. Chapin Hall Center for Children at the University of Chicago.
- Courtney, M. E., Dworsky, A., Hook, J. L., Brown, A., Cary, C., Love, K., Vorhies, V., Lee, J., Raap, M., Cusick, G. R., Keller, T., Havlicek, J., Perez, A., Terao, S., & Bost, N. (2011a). *Midwest evaluation of the adult functioning of former foster youth*. Chapin Hall Center for at the University of Chicago.
- Courtney, M. E., Okpych, N. J., Park, K., Harty, J., Feng, H., Torres-García, A., & Sayed, S. (2018). *Findings from the California youth transitions to adulthood study (CalYOUTH): Conditions of youth at age 21*. Chapin Hall at the University of Chicago.
- Courtney, M. E., Zinn, A., Johnson, H., & Malm, K. E. (2011b). Evaluation of the Massachusetts adolescent outreach program for youths in intensive foster care: Final report. OPRE Report #2011-14. Office of Planning, Research and Evaluation, Administration for Children and Families, U.S. Department of Health and Human Services.
- Courtney, M. E., Zinn, A., Koralek, R., & Bess, R. J. (2011c). Evaluation of the Independent living—employment services program, Kern county, California: Final report. OPRE Report #2011-13. Office of Planning, Research and Evaluation, Administration for Children and Families, U.S. Department of Health and Human Services.
- Crawford, B., Pharris, A. B., & Dorsett-Burrell, R. (2018). Risk of serious criminal involvement among former foster youth aging out of care. *Children and Youth Services Review, 93*, 451–457. <https://doi.org/10.1016/j.childyouth.2018.08.027>
- Curry, S. R., & Abrams, L. S. (2015). Housing and social support for youth aging out of foster care: State of the research literature and directions for future inquiry. *Child and Adolescent Social Work Journal, 32*(2), 143–153. <https://doi.org/10.1007/s10560-014-0346-4>
- Cusick, G. R., & Courtney, M. E. (2007). *Offending during late adolescence: How do youth aging out of care compare with their peers?* Chapin Hall Center for Children at the University of Chicago.
- Cusick, G. R., Courtney, M. E., Havlicek, J., & Hess, N. (2010). *Crime during the transition to adulthood: How youth fare as they leave out-of-home care*. Chapin Hall Center for Children at the University of Chicago. <https://www.ncjrs.gov/pdffiles1/nij/grants/229666.pdf>
- Day, A., Dworsky, A., Fogarty, K., & Damashek, A. (2011). An examination of post-secondary retention and graduation among foster care youth enrolled in a four-year university. *Children and Youth Services Review, 33*(11), 2335–2341. <https://doi.org/10.1016/j.childyouth.2011.08.004>
- Dworsky, A. (2005). The economic self-sufficiency of Wisconsin's former foster youth. *Children and Youth Services Review, 27*(10), 1085–1118. <https://doi.org/10.1016/j.childyouth.2004.12.032>
- Dworsky, A., & Courtney, M. E. (2010). The risk of teenage pregnancy among transitioning foster youth: Implications for extending state care beyond age 18. *Children and Youth Services Review, 32*(10), 1351–1356. <https://doi.org/10.1016/j.childyouth.2010.06.002>
- Dworsky, A., Napolitano, L., & Courtney, M. E. (2013). Homelessness during the transition from foster care to adulthood. *American Journal of Public Health, 103*(S2), S318–S323. <https://doi.org/10.2105/AJPH.2013.301455>
- Ferguson, K. M., Bender, K., Thompson, S., Xie, B., & Pollio, D. (2011). Correlates of street-survival behaviors in homeless young adults in four U.S. Cities. *American Journal of Orthopsychiatry, 81*(3), 401–409. <https://doi.org/10.1111/j.1939-0025.2011.01108.x>
- Fernandes, A. L. (2008). *Youth transitioning from foster care: Background, federal programs, and issues for congress*. Congressional Research Service. <https://fas.org/sgp/crs/misc/RL34499.pdf>
- Fowler, P. J., Marcal, K. E., Zhang, J., Day, O., & Landsverk, J. (2017). Homelessness and aging out of foster care: A national comparison of child welfare-involved adolescents. *Children and Youth Services Review, 77*, 27–33. <https://doi.org/10.1016/j.childyouth.2017.03.017>
- Greeno, E. J., Lee, B. R., Tuten, M., & Harburger, D. (2019). Prevalence of substance use, housing instability, and self-perceived preparation for independence among current and former

- foster youth. *Child and Adolescent Social Work Journal*, 36(4), 409–418. <https://doi.org/10.1007/s10560-018-0568-y>
- Hill, K. (2012). Permanency and placement planning for older youth with disabilities in out-of-home placement. *Children and Youth Services Review*, 34(8), 1418–1424. <https://doi.org/10.1016/j.childyouth.2012.03.012>
- Huang, H., Fernandez, S. B., Rhoden, M. A., & Joseph, R. (2018). Serving former foster youth and homeless students in college. *Journal of Social Service Research*, 44(2), 209–222. <https://doi.org/10.1080/01488376.2018.1441096>
- Kelly, P. (2020). Risk and protective factors contributing to homelessness among foster care youth: An analysis of the national youth in transition database. *Children and Youth Services Review*, 108, 104589. <https://doi.org/10.1016/j.childyouth.2019.104589>
- Kim, Y., Ju, E., Rosenberg, R., & Farmer, E. (Betsy), M. Z. (2019). Estimating the effects of independent living services on educational attainment and employment of foster care youth. *Children and Youth Services Review*, 96, 294–301. <https://doi.org/10.1016/j.childyouth.2018.11.048>
- Lee, J. S., & Ballew, K. M. (2018). Independent living services, adjudication status, and the social exclusion of foster youth aging out of care in the United States. *Journal of Youth Studies*, 21(7), 940–957. <https://doi.org/10.1080/13676261.2018.1435854>
- Lee, J. S., Courtney, M. E., Harachi, T. W., & Tajima, E. A. (2015). Labeling and the effect of adolescent legal system involvement on adult outcomes for foster youth aging out of care. *The American Journal of Orthopsychiatry*, 85(5), 441–451. <https://doi.org/10.1037/ort0000090>
- Lee, J. S., Courtney, M. E., & Hook, J. L. (2012). Formal bonds during the transition to adulthood: Extended foster care support and criminal/legal involvement. *Journal of Public Child Welfare*, 6(3), 255–279. <https://doi.org/10.1080/15548732.2012.683336>
- Lee, J. S., Courtney, M. E., & Tajima, E. (2014). Extended foster care support during the transition to adulthood: Effect on the risk of arrest. *Children and Youth Services Review*, 42, 34–42. <https://doi.org/10.1016/j.childyouth.2014.03.018>
- National Data Archive on Child Abuse and Neglect. (2016). *Adoption and foster care analysis and reporting system (AFCARS), Foster care file 2014* [Codebook]. Children’s Bureau, Administration on Children, Youth and Families, Administration for Children and Families, U. S. Department of Health and Human Services. <https://doi.org/10.34681/E3CC-JC75>
- National Data Archive on Child Abuse and Neglect. (2019a). *National youth in transition database (NYTD)—outcomes survey, Cohort age 17 in FY2014, Waves 1–3 (Complete)* [Codebook]. Children’s Bureau, Administration on Children, Youth and Families, Administration for Children and Families, U. S. Department of Health and Human Services. <https://doi.org/10.34681/H8QZ-PX91>
- National Data Archive on Child Abuse and Neglect. (2019b). *National youth in transition database (NYTD)—services file, FY2011-2018 (Version 1.0)* [Codebook]. Children’s Bureau, Administration on Children, Youth and Families, Administration for Children and Families, U. S. Department of Health and Human Services. <https://doi.org/10.34681/NPED-KZ53>
- Okpych, N. J. (2015). Receipt of independent living services among older youth in foster care: An analysis of national data from the U.S. *Children and Youth Services Review*, 51, 74–86. <https://doi.org/10.1016/j.childyouth.2015.01.021>
- Okpych, N. J., & Courtney, M. E. (2014). Does education pay for youth formerly in foster care? Comparison of employment outcomes with a national sample. *Children and Youth Services Review*, 43, 18–28. <https://doi.org/10.1016/j.childyouth.2014.04.013>
- Okpych, N. J., & Courtney, M. E. (2017). Who goes to college? Social capital and other predictors of college enrollment for foster-care youth. *Journal of the Society for Social Work and Research*, 8(4), 563–593. <https://doi.org/10.1086/694897>
- Okpych, N. J., & Courtney, M. E. (2018). Barriers to degree completion for college students with foster care Histories: Results from a 10-year longitudinal study. *Journal of College Student Retention: Research, Theory & Practice*. <https://doi.org/10.1177/1521025118791776>
- Pecora, P. J. (2012). Maximizing educational achievement of youth in foster care and alumni: Factors associated with success. *Children and Youth Services Review*, 34(6), 1121–1129. <https://doi.org/10.1016/j.childyouth.2012.01.044>
- Pecora, P. J., Kessler, R. C., O’Brien, K., White, C. R., Williams, J., Hiripi, E., English, D., White, J., & Herrick, M. A. (2006). Educational and employment outcomes of adults formerly placed in foster care: Results from the northwest foster care alumni study. *Children and Youth Services Review*, 28(12), 1459–1481. <https://doi.org/10.1016/j.childyouth.2006.04.003>
- Prince, D. M., Vidal, S., Okpych, N., & Connell, C. M. (2019). Effects of individual risk and state housing factors on adverse outcomes in a national sample of youth transitioning out of foster care. *Journal of Adolescence*, 74, 33–44. <https://doi.org/10.1016/j.adolescence.2019.05.004>
- Research Services Branch. (2014). *California state prison-child welfare data linkage study*. California Department of Social Services.
- Rosenberg, R., & Kim, Y. (2018). Aging out of foster care: Homelessness, post-secondary education, and employment. *Journal of Public Child Welfare*, 12(1), 99–115. <https://doi.org/10.1080/15548732.2017.1347551>
- Ryan, J. P., & Testa, M. F. (2005). Child maltreatment and juvenile delinquency: Investigating the role of placement and placement instability. *Children and Youth Services Review*, 27(3), 227–249. <https://doi.org/10.1016/j.childyouth.2004.05.007>
- Schelbe, L. (2018). Struggles, successes, and setbacks: Youth aging out of child welfare in a subsidized housing program. *Children and Youth Services Review*, 89, 298–308. <https://doi.org/10.1016/j.childyouth.2018.05.005>
- Shpiegel, S. (2018). *Publishing with the national youth in transition database*. National Data Archive on Child Abuse and Neglect. https://www.ndacan.acf.hhs.gov/user-support/NYTD_Support/Slides-NYTD-Publishing-07-Summer2018.pdf
- Shpiegel, S., & Ocasio, K. (2015). Functioning patterns among older adolescents in foster care: Results from a cluster analysis. *Children and Youth Services Review*, 58, 227–235. <https://doi.org/10.1016/j.childyouth.2015.09.024>
- Stewart, C. J., Kum, H.-C., Barth, R. P., & Duncan, D. F. (2014). Former foster youth: Employment outcomes up to age 30. *Children and Youth Services Review*, 36, 220–229. <https://doi.org/10.1016/j.childyouth.2013.11.024>

- Tyrell, F. A., & Yates, T. M. (2017). A growth curve analysis of housing quality among transition-aged foster youth. *Child & Youth Care Forum, 46*(1), 91–117. <https://doi.org/10.1007/s10566-016-9370-1>
- Wagner, M., Newman, L., Cameto, R., Garza, N., & Levine, P. (2005). *After high school: A first look at the postschool experiences of youth with disabilities*. A report from the National Longitudinal Transition Study-2 (NLTS2). SRI International.
- Watt, T., & Kim, S. (2019). Race/ethnicity and foster youth outcomes: An examination of disproportionality using the national youth in transition database. *Children and Youth Services Review, 102*, 251–258. <https://doi.org/10.1016/j.childyouth.2019.05.017>