HHS Public Access

Author manuscript

J Adolesc. Author manuscript; available in PMC 2021 February 23.

Published in final edited form as:

J Adolesc. 2019 July ; 74: 33–44. doi:10.1016/j.adolescence.2019.05.004.

Effects of Individual Risk and State Housing Factors on Adverse Outcomes in a National Sample of Youth Transitioning Out of Foster Care

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Abstract

Introduction: Compared to their peers, youth who leave the foster care system without permanency experience greater risks for adverse young adult outcomes, including homelessness, incarceration, substance abuse, and early child birth. Extant literature focuses on individual-level factors related to adversity. In this study, we estimated the impact of state and individual-level risk and protective factors on adverse 19-year-old outcomes among a cohort of U.S. transition age youth.

Methods: We used multilevel modeling to analyze prospective, longitudinal data from two waves of the National Youth in Transitions Database (N=7,449). These data were linked to the Adoption and Foster Care Reporting System, the Administration for Children and Families budget expenditures, and the American Community Survey for the period from 2011 to 2013.

Results: Approximately 30% of the variation in each of the 19-year-old outcomes could be attributed to state-level effects. Residence in a state that spent above average of CFCIP budget on housing supports reduced the risk of homelessness and incarceration. Living in a state with a higher proportion of housing-burdened low-income renters significantly increased the risk of substance abuse and child birth. Individual-level risks were significant: racial/ethnic minority, male gender, past risk history, placement instability, child behavioral problems, residence in group home or runaway. Remaining in foster care at age 19 reduced the odds of homelessness, incarceration, and substance abuse.

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Conclusion: Macro factors, including financial support for transition-age youth, and broader housing market characteristics, have a bearing on young adult outcomes, and raise policy questions across social and human service sectors.

Keywords

foster care; transition-age youth; homelessness; incarceration; pregnancy; substance abuse

Each year about 22,000 youths leave the US foster care system without having attained a permanent connection to a caregiver (i.e., are no longer eligible to remain in care within the child welfare system, or elect not to remain in care at the age of majority) (U.S. DHHS, 2017, 2018). These youths are at heightened risk for a number of adverse outcomes including homelessness (Dworsky, Napolitano, & Courtney, 2013; Fowler et al., 2013; Pecora, et al., 2006; Wade & Dixon, 2006). For example, about 28% of youth experience homelessness within 12 months of exiting care (Shah et al., 2017) and between 31–46% have been homeless at least once by age 26 (Dworsky, et al., 2013). This is troubling given that homelessness is linked to other adverse outcomes such as criminal justice involvement (Courtney, et al., 2007; Lee, Courtney & Tajima, 2014; Kovlivoski, Shook, Goodkind & Kim, 2014; Ryan, Perron & Huang, 2016), early child birth (Dworsky & Courtney, 2010; Putnam-Hornstein & King, 2014), and substance abuse (Braciszewski & Stout, 2012; Keller, Salazar, & Courtney, 2010; Narendorf & McMillen, 2010). Housing assistance programs, such as those provided to transition-age youth through the John H. Chafee Foster Care Independence Act (CFCIP), may help temper these negative outcomes. However, the extent to which such programs support improved youth outcomes remains unknown. In the present study, we investigate the impact of two state-level factors, CFCIP housing support and low-income renter housing burden, in conjunction with individual-level risk and protective factors on rates of homelessness, incarceration, substance abuse and child birth among a U.S. national sample of transition-age foster youth at age 19.

Homelessness and Other Adverse Outcomes Among Youth Who Exit Care

Extant literature demonstrates that homelessness is linked with other adverse young adult outcomes for transition-age foster youth. Some of the risk factors of chronic homelessness among this population include increased emotional and behavioral problems, physical and sexual victimization, criminal conviction, poor engagement in school and employment, and low educational attainment (Fowler, Toro, & Miles, 2009; 2011). Homeless youth with foster care histories were nearly nine times more likely to have been in substance use treatment compared to homeless youth with no foster care involvement (Thompson & Hasin, 2011). Among other high-risk adult populations, secure and stable housing improves behavioral health, reduces risk behaviors, and enables regular contact with health and mental health providers (Culhane, Metraux & Hadley, 2002; Leaver, Bargh, Dunn & Hwang, 2007). Three contextual factors may contribute to the heightened risk of homelessness and related adverse young adult outcomes among transition-age foster youth: prior adversity; lack of social support; and broader macro factors such as insufficient housing supports or lack of affordable housing for transition-age youth.

Adverse Experiences

Multiple forms of marginalization in adolescence confer cumulative risk that has significant potential to erode health and functioning, with cascading effects into adulthood (Appleyard, Egeland, Dulmen & Sroufe, 2005; Bauman, Silver & Stein, 2006; Thoits, 2010). Of particular concern is chronic exposure to adversity, including child maltreatment, abuse, neglect, and victimization, which incur additional threats to psychosocial development, and later life health and functioning (Edwards, Holden, Felitti & Anda, 2003). Early adversity (including maltreatment) may lead to an increased propensity for, and heightened sensitivity to, stressful experiences throughout the life-course, leading to poorer mental health outcomes (Raposa, Hammen, Brennan, O'Callaghan & Najman, 2014). System-involved youth experience heightened exposure to adverse events, including trauma and abuse (Abram, et al., 2004).

In the child welfare system, the majority of young people in care have experienced complex trauma, or exposure to at least two types of traumatic events such as child maltreatment and removal from home (Beyerlein & Bloch, 2014; Greeson et al., 2011; Ko et al., 2008). Complex trauma has been associated with increased risk of mental health problems and externalizing behaviors, including substance abuse (Thornberry, Ireland, & Smith, 2001), depression, and delinquency and problem behaviors (Burns et al., 2004; Thornberry et al., 2001; Thornberry, Henry, Ireland, & Smith, 2010; Whitson & Connell, 2016). Complex trauma and victimization experiences may increase the propensity for engaging in antisocial behaviors, and potentially leading to juvenile or criminal justice involvement (Ryan & Testa, 2005; Snyder, et al., 2016). In one community-based study, between 42 and 79% of youth with a maltreatment history went on to engage in delinquent behaviors (Kelley, Thornberry, and Smith, 1997).

In addition to the potentially traumatic experiences precipitating child welfare system involvement, youths may experience traumatic events related to being in care. Placement instability is a common experience for adolescents in care (Connell, Vanderploeg, Flaspohler, Katz, Saunders, & Tebes, 2006); more than a quarter of youth report having lived in five or more foster homes while in care (Courtney, Terao, & Bost, 2004; Courtney, Charles, Okpych, Napolitano, & Halsted, 2014). Frequent changes in placement has been linked to later loss and trauma (Morton, 2018; Unrau, Seita, & Putney, 2008). In turn, placement instability may exacerbate risk for increased problem behaviors (Baglivio, et al., 2016; Leve et al., 2012). For example, multiple placement moves have been linked with subsequent delinquency arrests (Graves, Frabutt, & Shelton, 2007; Ryan & Testa, 2005).

Social Support

The presence of supportive and caring relationships with adults is considered to be an important factor in helping young people successfully transition to adulthood. Extant literature demonstrates that both formal and informal social supports are protective factors for young adults transitioning from foster care, especially on their housing, educational, and psychological wellbeing (Cashmore & Paxman, 2006; Collins, Spencer & Ward, 2010; Courtney & Dworsky, 2006; Perry 2006; Munson & McMillan, 2009; Rutman &

Hubberstey, 2016). In this population, at age 17 biological family members (e.g., siblings, biological parents, grandparents, aunts and uncles, cousins) and peers (e.g., friends, romantic partners, classmates) are common sources of support (Courtney et al., 2014). Formal supports, or "system workers," are another source of social support. Some youth report that they formed close connections with their child welfare workers or workers from other social services, and these workers provide resources, information, and emotional support during their transition to adulthood (Collins, et al, 2010; Lemon, Hines, & Merdinger, 2005). Although formal supports are common, they may not be permanent. When youth age out of care, the relationships and connections with those helping professionals may change or end (Singer & Berzin, 2015).

Natural mentors provide another potential source of support for young adults during this transition from care. Munson and McMillen (2009) found that youth who had such a relationship for over one year experienced less stress and were less likely to have been arrested by age 19 compared to non-mentored youth. Similarly, Collins and colleagues (2010) surveyed former foster youth and found that having a mentor was significantly associated with high school or G.E.D. completion and fewer episodes of homelessness since age 18.

While the presence of support is critical, for some youth foster care involves constant disruption—in housing, school, and social support networks. Changes in foster care placements disrupt the connections youth establish with their caregivers, peers, and other individuals in their living situation, compromising the breadth and stability of their social support network. One study found that youth with weak social networks (i.e., reported only one source of support – biological family, peers, or foster caregivers) were significantly more likely than youth with strong social networks to experience depression and anxiety following a placement change (Perry, 2006). In this way, social support and disruptions to living placement stability have important implications for youths' emotional wellbeing and functioning after leaving care.

Housing Availability and Low-Income Renter Burden

Housing insecurity, more broadly, is a significant public health concern for a growing proportion of the population. The total number of renters facing serious housing hardship, such as paying more than 50% of their income towards housing (Watson, Steffen, Martin & Vandenbroucke, 2017) is on the rise; yet less than a third of eligible households receive assistance (Collins & Curtis, 2011). While housing assistance programs may ease this burden, foster youth exiting care may be competing for access to such need-based supports given the significant gaps between housing support availability and program demand (Collins et al., 2011; Pergamit, McDaniel & Hawkins, 2012; US GAO, 2007). However, exogenous factors such as housing burden, subsidies, and state-level policy are rarely included in studies of housing instability and related outcomes for this population (Collins, et al., 2011; Stott, 2013).

In 1999, the John H. Chafee Foster Care Independence Act (CFCIP; Public Law 106–169) amended Title IV-E to expand funding to states to provide independent living services for

older youth in foster care[1]. Under this law, states could spend up to 30% of their CFCIP on room and board for foster youth. States spend hundreds of millions of dollars each year on CFCIP (Okpych, 2015), and yet no research to date has focused on the impact of variation in housing support spending on youth outcomes. Dworsky and colleagues (2013) recommended considering such state-level variation when examining contributors of homelessness for transition-age foster youth. A variety of factors may influence homelessness, housing insecurity, and other related outcomes among these young people, including individual risk factors and child welfare case involvement characteristics. However, targeting effective intervention requires investigation of the complex interplay of factors operating on multiple levels, including those at the state level. Narrow focus on individual-level risks, without accounting for differences in state practices and macro contextual factors, may miss important factors that influence outcomes of foster youth in young adulthood.

Methods

Data Sources and Procedures

Secondary analyses of waves one and two of the National Youth in Transition Database (NYTD) general release files (NDACAN, 2013a, 2013b) was used to capture youth self-reported risk and protective factors at age 17 and outcomes at age 19. NYTD was established by the CFCIP, and requires all 50 states, the District of Columbia, and Puerto Rico to collect data on wellbeing outcomes (e.g., homelessness) and services provided to older youths in foster care. States began reporting these data to the Administration for Children and Families (ACF) in 2011, and every three years are required to start a new cohort of youth. The inaugural cohort of NYTD consists of youth who were 17 years of age during this fiscal year and were in a foster care placement within 45 days of their 17th birthday. Youth who participated in the 17 year-old outcomes survey were eligible to participate again at age 19. The outcomes component tracks educational, vocational, and general wellbeing outcomes for youth as they exit out of foster care. The services component of the NYTD tracks 14 independent living services provided by states paid for by CFCIP. Service receipt is reported every six months by agencies to the federal government.

Our sampling frame included youth who participated in the outcomes survey at both ages 17 and 19, and who resided in states, including the District of Columbia, that participated in both waves of the outcomes study (N=49). New York and Puerto Rico did not participate in the outcomes study at wave 2, and Connecticut did not have data in the NYTD due to confidentiality issues with reporting, thus these three locales were excluded from our analyses. 7,449 youth met our study criteria, participating in both the baseline and follow-up survey. Of these 7,449 youths, approximately two-thirds (N=4,991) were present in the services file and the remaining third (N=2,458) were not present. Youth who were not present in the services file but did participate in the outcomes survey were considered to not

[1]As per the 2018 Family First Prevention Services Act, the CFCIP program was renamed the John H. Chafee Foster Care Program for Successful Transition to Adulthood. In this article, we retain the original name of the program since this was its name during the time the data analyzed in this study was collected.

have received ILS services through CFCIP. The average national response rate was 54% in wave one and 69% in wave two. These rates are consistent with other hard-to-reach populations (Bonevski, et al., 2014). NYTD sample weights are included to account for variation in response rates. Information on the weighting methodology is available at in the NYTD Outcomes File User's Guide (NDACAN, 2014). We used the wave 2 sample weights, which adjust the Wave 2 respondents to represent the full baseline population.

Records from the NYTD outcomes and services data were matched using unique case IDs with the Adoption and Foster Care Analysis and Reporting System (AFCARS), which tracks case-level information from states for each child involved in the U.S. child welfare system. These data include information on placement instability, reason for removal from biological home, run away, and most recent placement type.

We obtained expenditure data from the ACF, specifically, state responses to the CFS-101 Part III Expenditures Form for CFCIP for fiscal years 2011, 2012, and 2013. On this form, states must submit the total annual expenditure of CFCIP funds allotted to room and board. Finally, data derived from U.S. Department of Housing and Urban Development American Community Survey, the Comprehensive Housing Affordability Strategy (CHAS) from 2009–2013 was used to assess renter burden among low-income residents at the state level. We identified the proportion of severe to extreme housing burdened renters living in single or roommate occupied households. This variable captures housing burden among the most economically disenfranchised Americans, or those that are living at 30–50% below the median income level in their state. These types of living arrangements are most relevant to our study population.

Measures

Outcomes.—All 19-year-old outcomes are dichotomous 'Yes/No' responses measured by youth self-report of the experience within the past two years (since age 17) and are defined as such: *Homelessness*—no regular or adequate place to live, including living in a car, on the street, or staying in a homeless or temporary shelter; *Incarceration*—confined in a jail, prison, correctional facility or juvenile or community detention facility as a result of allegedly committing a crime (felony or misdemeanor); *Substance abuse referral*—referred for an alcohol or drug abuse assessment or counseling, including self-referral or referral by a social worker, school staff, physician, mental health worker, foster parent or another adult; *Child birth*—giving birth to or fathering a child that was born.

Individual-level predictors.—Youth race/ethnicity was included as a categorical variable with Black/African American, Latino/Hispanic, and Other race (combination of Asian, Alaskan Native and Native Hawaiian or other Pacific Islander) compared to White. Gender was coded as a dichotomous variable with male as the reference group. Several risk factors ('Yes/No' dichotomous variables) were also investigated, including homelessness, substance abuse referral, incarceration, and child birth. Each of these risk factors was assessed at age 17 and asked youth if they had ever in their lifetime experienced each event. Extant research demonstrates that previous experience with these risk factors increases the likelihood of subsequently experiencing these events (Fowler, Toro & Miles, 2011; Pilowsky & Wu,

2006). Connection to a caring adult ('Yes/No' dichotomous variable) at age 17 was included as a protective factor as having a supportive relationship with at least one adult is shown to lessen the odds of adverse outcomes for this population (Collins, Spencer, & Ward, 2010; Zinn, Palmer, & Nam, 2017).

Several factors related to characteristics of youths' foster care histories, including the reason they were removed from care, the number of times they had changed placements within one episode of child welfare involvement, and whether they had previously been involved in foster care, are all strong predictors of adverse young adult outcomes (Okpych & Courtney, 2018). Reason for most recent removal from biological family is a four-category dummy coded variable from most severe to least (DiLillo, et al., 2010): child maltreatment (any physical abuse, sexual abuse and/or neglect); child behavior problem (child behavioral problem, child alcohol abuse, and/or child drug abuse); caregiver substance abuse problem (alcohol and/or drug abuse), and other reason (parent died, parent incarceration, parent inability to cope, parent relinquishment, abandonment and/or inadequate housing). If multiple removal reasons were listed (i.e. neglect and child behavior problem) maltreatment (physical abuse, sexual abuse, or neglect) was prioritized as the removal reason. Number of removals captures the number of placement changes within the last episode of care, which included three categories: 1–2 changes, 3–5 changes, and 6 or more changes. Prior foster care episode was treated as a dichotomous variable (Yes/No), which indicated whether youths had ever been removed from their biological family and placed into foster care prior to their current foster care episode.

In addition, the restrictiveness of the care setting for foster placement has been shown to be an important factor in predicting behavioral and mental health outcomes (Auslander et al., 2002; Keller, et al., 2010; McMillen, et al., 2005; Okpych & Courtney, 2018). We created a five-category dummy-coded variable capturing the youths' last placement type: relative foster home, group home/institution, runaway, temporary home visit, and nonrelative foster home (reference group). Finally, remaining in foster care past age 18 is shown to reduce rates of homelessness and other adverse outcomes (Dworsky et al., 2010; Dworsky et al., 2013), in care at age 19 was treated as a dichotomous variable (Yes/No).

States must report CFCIP-funded services delivered to eligible foster youth every six months. We combined reporting periods for the 2011 fiscal year to compute variables for service receipt. Broadly, services fall into broad domains of financial assistance (supervised independent living, room and board, educational financial services) and those related to other domains of wellbeing (e.g., educational/academic; budget and home management; and health and psychosocial supports). We created two count variables for the number of financial services received (range 0–11) and the number of wellbeing services received (range 0–4).

State-level predictors.—We created a variable to calculate the mean percentage spent on housing support over the study period (2011–2013) for each state. This figure ranged from 0% (state did not spend any of their CFCIP allotment on housing) to 30% (state consistently spent the maximum allotment on housing). CFCIP spending is a mean-centered continuous variable of the average spent on housing support during the study period.

Although state spending on housing supports may be strong, housing market factors may also play a role in youth wellbeing outcomes. Individuals living at the 30th or 50th percent of median income are considered to be severe to extreme housing burdened. We used data from the U.S. Housing and Urban Development's Comprehensive Housing Affordability Strategy (CHAS) data from fiscal year 2013 to create a measure of housing burden. CHAS data are derived from the American Community Survey and is used to indicate the extent of housing problems and housing needs, particularly for low-income residents. The measure of housing burden was quantified as the proportion of low-income single or roommate renters living at the 30th or 50th percent of the median income. The average was 72%, ranging from 24% to 81%.

Attrition analyses.: Comparisons of youths who participated at both waves of the NYTD with youths who did not respond to the follow-up survey at age 19 yielded significant differences on some key covariates assessed at age 17. Specifically, youth who participated in both the baseline and follow-up survey were significantly less likely, at age 17, to have received a substance abuse referral (χ^2= 205.34, p<0.001), to have been incarcerated (χ^2= 393.51, p<0.001), and to have had a child (χ^2= 28.55, p<0.001). No significant differences in age-17 covariates were found between wave two participants and nonparticipants on homelessness, employment, public financial assistance, public food assistance, public housing assistance, or connection to an adult.

Analytic Strategy

All analyses were performed using Mplus version 7.0, (Muthén & Muthén, 2011) with individuals (n=7,449) as the units of analysis. Individuals were nested within states (n=49). Multilevel modeling takes into account the "nested" or dependent nature of these data (i.e., youth clustered by state), and corrects the violation of independence assumption that would occur if these variables were treated as independent of one another (Peugh, 2010). Data were analyzed assuming a two-level structure, with transition-age youth nested within states. Logistic regression models were estimated for each of the 19-year-old outcomes (i.e., homelessness, incarceration, substance abuse referral, and child birth) using random coefficients. Individual level predictors had less than 2% missingness. Missingness on 19-year-old outcomes ranged from 2.1% (homelessness) to 3.1% (child birth). We followed Schafer & Graham's (2002) and Acock's (2012) guidelines for missing data and used full-information maximum likelihood estimation to address missingness. This approach uses all available information to estimate model population parameters that maximize the likelihood function based on existing sample data. We ran six separate random intercept models for each outcome. Model 1 included only demographic covariates (race/ethnicity and gender). Each successive model added an additional group of covariates, including past risk factors (Model 2), foster care history characteristics (Model 3), placement setting, (Model 4), receipt of independent living services (Model 5), and State-level covariates (Model 6). For parsimony, only the results from Model 6 are presented below (see Tables 3 and 4).

Results

At age 19, 20.4% of the sample had experienced homelessness in the past two years, 14.4% had received a substance abuse referral, 22.4% had been incarcerated, and 12.3% had birthed or fathered a child (see Table 1). Table 2 summarizes the distribution of sociodemographic factors, previous risk indicators, and foster care history characteristics for the sample, separated by gender.

As seen in Tables 3 and 4, the intercept-only models revealed significant between-state variation in 19-year-old incidence rates of homelessness, substance abuse referral, incarceration, and child birth. The intraclass correlation coefficient (ICC) indicated that approximately 30% of the variation in rates of homelessness, incarceration, substance abuse referral, and early child birth are each accounted for by state-level effects.

State-Level Effects

The contribution of both individual- and state-level factors to the four young adult outcomes are presented in Tables 3 and 4. Focusing first on state-level effects, our final model demonstrates that youth residing in states that spent higher than average of their CFCIP allotments on housing supports were less likely to experience homelessness and incarceration at age 19 than those residing in states spending below the average. CFCIP housing support was not significantly associated with reductions in substance abuse or child birth. Youth who lived in states with a higher proportion of low-income housing burdened renters were more likely to experience substance abuse and child birth at age 19 compared to those living in states with a lower proportion of extreme to severely low-income renters. Housing burden was not associated with increased incarceration. However, housing burden did demonstrate an inverse relationship with homelessness; youth residing in states with higher housing burden were less likely to experience homelessness than those living in lower housing burdened states even after accounting for CFCIP housing supports.

Individual-level Effects

As expected, indicators of prior adverse outcomes (i.e., homelessness, substance abuse referral, or criminal justice involvement) increased the odds of the same outcome at age 19. In addition, 17-year-old substance abuse elevated that odds of 19-year-old homelessness (*OR* = 1.69; 95% *CI*: 1.31–2.18) and criminal justice involvement (*OR* = 1.88; 95% *CI*: 1.53–2.31);17year-old juvenile justice involvement elevated the odds of criminal justice involvement (*OR* = 2.82; 95% *CI*: 2.25–3.53), homelessness (*OR* = 1.44; 95% *CI*: 1.05–1.99), substance abuse (*OR* = 1.75; 95% *CI*: 1.38–2.23) and child birth at age 19 (*OR* = 1.70; *CI*: 1.19–2.42).

Removal from home for a child behavioral or emotional problem elevated the odds of homelessness (*OR* = 1.44; 95% *CI*: 1.17–1.78), criminal justice involvement (*OR* = 1.46; 95% *CI*: 0.99–2.15) and substance abuse referral (*OR* = 1.46; *CI*: 1.14–1.87) at age 19, compared to removal due to child maltreatment. Removal for other reasons (i.e., parental inability to cope, insufficient housing) elevated the odds of homelessness compared to removal due to maltreatment (*OR* = 1.36; *CI*: 1.15–1.59). Increased placement instability

elevated the odds of child birth at age 19 (*OR* = 1.17; *CI*: 1.01–1.36). An inverse relationship was found for having been removed from home before, where prior removal decreased the odds of incarceration at age 19 (*OR* = 0.82; *CI*: 0.67–1.00).

Compared to youth whose last placement was a non-relative foster home, youths in a group home or institutional setting had an elevated odds of criminal justice involvement (*OR* = 2.41; *CI*: 1.92–3.03), and substance abuse referral (*OR* = 1.50; *CI*: 1.22–1.85) at age 19. Compared to youth living in a non-relative foster home, youth who had runaway had an elevated odds of homelessness (*OR* = 3.87; *CI*: 2.51–5.98), criminal justice involvement (*OR* = 2.88; *CI*: 1.83–4.52), substance abuse referral (*OR* = 1.77; *CI*: 1.26–2.50), and child birth (*OR* = 1.86; *CI*: 1.33–2.61) at age 19. Youth who were connected to an adult at age 17 were at a reduced odds of experiencing homelessness at age 19 (*OR* = 0.68; *CI*: 0.47–0.98). Finally, remaining in foster care at age 19 reduced the odds of experiencing homelessness (*OR* = 0.36; *CI*: 0.28–0.46) and criminal justice involvement (*OR* = 0.58; *CI*: 0.45–0.73). However, youth who remained in care at age 19 were at an increased odds of substance abuse referral (*OR* = 1.49; *CI*: 1.05–2.11)

Discussion

To our knowledge, this study is the first to test both individual and structural risk factors for homelessness and other outcomes in a national sample of transition-age youth. The novel contribution of the current study is that we included housing market characteristics and CFCIP expenditures for housing supports at the state level to examine the associations between these structural factors and individual youth homelessness and related young adult outcomes, while simultaneously examining individual risk histories and patterns of child welfare involvement. We found significant variation in young adult outcomes attributable to the state where youth resided. In our full model, increased budget spending on housing supports at the state level was significantly associated with decreased homelessness and incarceration. Conversely, youth who resided in states with a higher proportion of housing burdened single or roommate renters were significantly more likely to experience substance abuse and early child birth, after accounting for individual-level risk and protective factors.

The transition into young adulthood for foster youth has been described as “accelerated and compressed” (Stein, 2006, p. 427). Youth transitioning from foster care are expected to attain “independence” at a faster rate without the social support resources–including tangible, psychological, and emotional support—of their 19-year-old peers. Financial support for housing from the foster care system is one form of a “safety” net for this population. In our study, above average CFCIP spending on housing supports was associated with decreased odds of homelessness and incarceration. The full range of housing supports potentially available to this population were not captured in this study. For example, transition-age youth are also eligible for Education and Training Vouchers (ETVs) to support postsecondary education pursuits. ETVs may be used for housing, such as covering the cost of dormitory or apartment costs while youth are in college (Foster Care to Success, n.d.). In addition, young people may supplement their housing costs through other financial sources (Curry & Abrams, 2015). The full picture of housing spending was beyond the scope of this study. However, findings do demonstrate that state investment in financial support for

housing may reduce foster youths' chances of experiencing of homelessness and incarceration, both promising outcomes.

Also notable is that state housing burden for extremely low-income residents was associated with significant increases in substance abuse and child birth in this population. The association of housing insecurity with behavioral health outcomes is striking. Other research has found that a significant stressful life shock, such as the birth of a child with severe health problems, significantly elevates the chance of homelessness for those living in cities with high housing costs (Curtis, et al., 2013). Homelessness among this age group is also associated with increased rates of victimization and trauma experiences that may increase the risk of involvement in delinquency (Snyder, et al., 2016; Ferguson, et al., 2011) as well as isolation from social services (Carlson, Sugano, Millstein, & Auerswald, 2006; Ferguson, et al., 2011). In terms of childbirth, low-income women have higher rates of unintended pregnancy with the largest differences seen in women with incomes below 200% of the federal poverty level, compared to those with incomes above (Finer & Henshaw, 2006). Access to safe, secure, and affordable housing may impact young adult social and behavioral outcomes far beyond having a roof over ones' head.

Similar to other research, many individual-level characteristics remained statistically significant ($p < .05$) after accounting for larger contextual factors. African American and Latino/a youth were each more likely to experience incarceration and substance abuse referral compared to their White counterparts, in addition, African American youth were more likely to experience homelessness as well. This is consistent with research on disproportionate minority contact across service systems (Vidal, Connell, Prince, & Tebes, 2019). Black youth are disproportionately represented in the foster care system (Herz et al., 2012; Putnam-Hornstein, Needell, King, & Johnson-Motoyama, 2013); and more likely to be formally processed, prosecuted, and found delinquent compared to White youth (Bishop, et al., 2010).

Results from our study also show a consistent pattern of exposure to risk (i.e., homelessness, juvenile justice involvement, and substance abuse referral) prior to age 17 is associated with increased risk of re-experiencing these events in emerging adulthood. One possible explanation is that these experiences reflect chronic conditions that are likely to cooccur and recur in adolescence and early adulthood. Alternatively, these findings may suggest possible concordance with cumulative stress theory. Exposure to multiple adversities in childhood and adolescence is demonstrated to predict worse behavioral and psychological health outcomes for youth compared to peers those who experience only one (Connell, Pittenger, & Lang, 2018; Copeland et al., 2007; Hagan, Sulik & Lieberman, 2016; Green et al., 2016; Finkelhor, Ormrod, & Turner, 2007).

In our study, greater placement instability was associated with an increased odds of child birth at age 19. Frequent changes in placement may contribute to increased difficulties developing secure and healthy attachments with others (Cyr, Bakersman-Kranenburg & van Ijzendoorn, 2010). Qualitative studies of motherhood among this population have illustrated how becoming a mother is a means of creating loving and "forever" relationships, and is as an "emotionally corrective experience" of past ruptured relationships (Aparicio, Pecukonis

& O'Neale, 2015; Connolly, et al., 2012; Pryce & Samuels, 2010). Similarly, other foster care history characteristics increased their odds of adverse outcomes; placement in a congregate care setting and a history of runaway were both signals of increased risk. On the one hand, youth placed in group homes and other institutions may exhibit more challenging behavioral problems and needs; however, in many belabored child welfare systems, group home or residential facility becomes the "last resort" placement option when all other avenues have been exhausted. Running away may be a manifestation of both individual and system-level risk characteristics (e.g., history of multiple removals, placement in congregate settings; Connell, Katz, Saunders, & Tebes, 2006). Youth who run away from placement may also may be experiencing trauma within that placement (Lin, 2012). Youth who become involved in the juvenile justice system, as well as with child welfare have a two-thirds chance history of running away (Dale, Baker, Anastasio, & Purcell, 2007), and approximately one-third of these youth have parents with drug or alcohol problems (Ryan, Williams, & Courtney, 2013).

In our study, the presence of one caring adult connection was only associated with decreased odds of homelessness. The overwhelming majority of participants reported having at least one such adult, however, many potentially important dimensions of social support relationships were not captured by the question in NYTD (e.g., types of support, frequency of contact, duration of the relationship) (Collins, et al., 2010; Greeson & Bowen, 2008; Greeson, Usher & Grinstein-Weiss 2010; Munson, et al., 2009). Single-item measures of adult support may be inadequate to capture the impacts of supportive adult relationships on youth outcomes. Future research with this population should include multidimensional and robust measures. For example, the CalYOUTH Study of transition-age youth in California used a name generator instrument that gathered information on three types of social support (i.e., instrumental, advice/guidance, and emotional), qualities of the youth-support person relationship, and information on the support person (Courtney et al., 2014). One analysis from using CalYOUTH data found that specific, theory-driven measures of social support predicted youths' likelihood of entering college, whereas more general measures of support were not predictive of college enrollment (Okpych & Courtney, 2018b). Other scholars call for even more elaborate and detailed inventory of youths' social connections, which draws on the rich tradition of social network analysis (e.g., Blakeslee, 2012; Blakeslee & Best, 2018). Meaningful analyses of the resources embedded in foster youths' social ties will likely require more elaborate and precise measures than the one included in the NYTD survey.

Finally, remaining in foster care at age 19 was a protective factor in reducing homelessness, incarceration, substance abuse for young adults. Extension of foster care services past age 18 (age of majority) is supported by the Fostering Connections to Success and Increasing Adoptions Act of 2008 (P.L. 110–351), which allows states to use IV-E waiver funding to pay for foster care, adoption, and kinship or guardian care to age 21 (Snyder, 2016). As of December 1, 2016, 24 states and the District of Columbia provided some level of extension of care services through the Fostering Connections Act (Children's Bureau, 2018). A growing body of research employing rigorous statistical methods has shown that remaining in care past one's 18th birthday can reduce adverse outcomes and promote positive outcomes in young adulthood (Courtney & Hook, 2017; Courtney, Okpych, & Park, 2018; Courtney,

Park, & Okpych, 2017; Dworsky, Napolitano, & Courtney, 2013; Hook & Courtney, 2011; Lee, Courtney, & Tajima, 2014).

Limitations remain in the methodology of this study. First, there was significant attrition between the baseline and follow-up survey of the NYTD outcomes study. Youth who participated at age 19 were significantly different from those who did not on indicators assessed at age17 year, including substance abuse referral and incarceration. It is therefore possible that we are underestimating the effects of risk factors on homelessness due to attrition. Further, the non-random sampling methodology used by most states to implement the NYTD means that the youth represented in the survey may be those who are faring better. It is possible that harder to reach youth with more complex problems, including those who runaway or are involved in the criminal justice system, may be underrepresented in the survey. Second, the NYTD is limited with respect to the scope and nature of the service data and outcomes reported. Type of program, dosage, and service-recipient's perception of services are not captured in the data, and only 'yes/no' indicators of adverse outcome occurrence are provided. Finally, homelessness as currently defined in the NYTD does not include other important markers of housing instability such as the number of times a young person moves within a year or staying with friends or relatives ("couch-surfing"). As discussed previously, other sources of financial support, including ETVs or additional subsidies, were not accounted for in this analysis. In addition, low income housing burden was aggregated to the state level. Significant differences may exist between rural, suburban, and urban contexts in terms of poverty concentration and housing market characteristics. Finer-grained analyses of housing burden at the county-level could unearth additional complexities in terms of the young adult outcomes explored here.

Despite these limitations, this study has several strengths. First, findings demonstrate that increased allotment of CFCIP budget to housing supports may curb rates of homelessness and incarceration among this highly vulnerable population. Other programs to support state housing may also be beneficial (Curry & Abrams, 2015; Naccarato & DeLorenzo, 2008). For example, attention to the Transitional Living Program (TLP) for this population is needed. The TLP, administered by the ACF, provides funds to local and state governments, as well as CBOs to provide longer term housing alongside supportive services to homeless youth (Dworsky, Dillman, Dion, Coffee-Borden, & Rosenau, 2012). TLP programs exist on a continuum of high supports and on-site supervision by caseworkers or social workers to lower levels of support and increased autonomy.

For young adults transitioning from foster care, a range of supportive housing options will be needed as one size does not fit all. Consistent with previous research, youth with significant placement instability, past involvement in systems (i.e. juvenile justice or behavioral health), and those in more restrictive care settings or a history of runaway, are at an increased risk of adverse outcomes. Further, there may be differential patterns of risk likelihood related to outcomes, such that boys and Black/Hispanic youths were significantly more likely to have been incarcerated in the past two years at age 19 than girls or their White counterparts. Similarly, girls of color (Black and Hispanic) were more likely to have experienced early child birth. Therefore, supportive housing needs will need to be sensitive to differences in this population. Furthermore, attention to State context, and even finer-

grained localities, i.e. county-level variations is necessary. Policies to promote greater spending on housing supports for transition age youth, and attention to housing market stock, are necessary for supportive transition to adulthood.

Acknowledgments

This publication was made possible with grant support the National Institute on Drug Abuse (NIDA) funded Postdoctoral Training Program (T32 DA019426). A portion of Dr. Connell's involvement was supported by a grant from NICHD (PI: Noll, P50HD089922). The content is solely the responsibility of the authors and does not necessarily represent the official views of the National Institutes of Health. The data used in this publication were made available by the National Data Archive on Child Abuse and Neglect. Data from the National Youth in Transition Database were originally collected by the states and provided to the Children's Bureau. Funding was provided by the Children's Bureau, U.S. Department of Health and Human Services. The collector of the original data, the funder, the Archive, Cornell University and their agents or employees bear no responsibility for the analyses or interpretations presented here.

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- 30% of variation in outcomes attributed to State-level housing factors.
- Increased CFCIP federal dollars spent on housing supports lowers the odds of homelessness and incarceration.
- Increased state-level renter burden increased odds of substance use and child birth.
- Male gender, racial minority, and child welfare history increase risk odds.
- Remaining in foster care after age 19 decreases risk odds.

Table 1.

Descriptive statistics of 19-year-old outcomes by gender

	Young Men, No. (%)		Young Women, No. (%)		Total, No. (%)
Outcome	**Yes**	**No**	**Yes**	**No**	
Homelessness	696 (20.3)	2729 (79.7)	786 (20.5)	3048 (79.5)	1482 (20.4)
Substance Abuse Referral	578 (16.8)	2857 (83.2)	475 (12.3)	3378 (87.7)	1053 (14.4)
Incarceration	1104 (32.2)	2320 (67.8)	523 (13.6)	3322 (86.4)	1627 (22.4)
Child Birth	220 (6.5)	3176 (93.5)	669 (17.5)	3154 (82.5	889 (12.3)

Table 2.

Descriptive statistics of study sample by gender

	Young Men, No. (%)		Young Women, No. (%)		Total, No. (%)
Variable	**Yes**	**No**	**Yes**	**No**	
Race/Ethnicity					
White	1058 (47.1)	1188 (52.9)	1189 (43.9)	1518 (56.1)	2247 (45.4)
Black	675 (30.1)	1571 (69.9)	775 (28.6)	1932 (71.4)	1450 (29.3)
Latino/a	337 (15.0)	1909 (85.0)	525 (19.4)	2182 (80.6)	862 (17.4)
Other race	176 (7.8)	2070 (92.2)	218 (8.1)	2489 (91.9)	394 (8.0)
Age 17 Risk Factors					
Prior Homelessness	547 (15.5)	2921 (82.7)	681 (17.4)	3142 (80.2)	1228 (16.8)
Prior Substance Abuse Referral	939 (27.1)	2528 (72.9)	865 (22.5)	2974 (77.5)	1804 (24.7)
Prior Juvenile Justice Involvement	1444 (41.8)	2013 (58.2)	905 (23.6)	2928 (76.4)	2349 (32.2)
Prior Connection to Adult	3279 (94.6)	189 (5.4)	3658 (95.1)	187 (4.9)	6937 (94.9)
Child Welfare Case Characteristics					
Removal Child Maltreatment	1799 (50.9)	1554 (44.0)	2384 (60.8)	1435 (36.6)	4183 (56.2)
Removal Caregiver Substance Abuse	535 (15.2)	2818 (79.8)	591 (15.1)	3228 (82.4)	1126 (15.1)
Removal Child Behavior Problem	1296 (36.7)	2057 (58.3)	1084 (27.2)	2735 (69.8)	2380 (32.0)
Removal Other Reasons	1385 (39.2)	1968 (55.7)	1532 (39.1)	2287 (58.4)	2917 (39.2)
Number of Placements					
1–2 Placements	1130 (33.4)		1278 (33.3)		2408 (33.4)
3–5 Placements	1021 (30.2)		1205 (30.8)		2226 (30.8)
6 or More Placements	1228 (36.3)		1358 (35.4)		2586 (35.8)
History of Removal from Home	1102 (32.6)	2279 (67.4)	1279 (33.3)	2564 (66.7)	2381 (33.3)
Current Placement Setting					
Foster Care	1445 (40.9)	1919 (54.3)	1859 (47.4)	1969 (50.3)	3304 (44.4)
Kinship Care	301 (8.5)	3063 (86.7)	529 (13.5)	3299 (84.2)	830 (11.1)
Group Home or Institution	1378 (39.0)	1986 (56.2)	1136 (29.0)	2692 (68.7)	2514 (33.7)
Runaway	95 (2.7)	3269 (92.6)	140 (3.6)	3688 (94.1)	235 (3.2)
Temporary Home Visit	145 (4.1)	3219 (91.2)	164 (4.2)	3664 (93.5)	309 (4.1)
Remained in Foster Care at age 19	1116 (31.6)	2415 (68.4)	1204 (30.7)	2714 (69.3)	2320 (31.1)

Table 3.

Hierarchical logistic regression analysis for variables predicting homeless and incarceration at age 19

Predictors	Homeless		Incarceration	
	OR	95% CI	OR	95% CI
Race/ethnicity (ref: White)				
African American	1.41***	1.15– 1.72	1.75**	1.19–2.57
Latino/a	1.17	0.81– 1.69	1.38**	1.08–1.76
Other Race	0.99	0.66– 1.46	1.51	0.96–2.34
Female (ref: male)	1.08	0.90– 1.29	0.45***	0.36–0.57
Ever homeless	1.81***	1.40– 2.32	0.98	0.75–1.28
Ever had substance abuse referral	1.69***	1.31– 2.18	1.88***	1.53–2.31
Ever had juvenile justice involvement	1.44*	1.05– 1.99	3.77***	3.03–4.69
Connection to adult	0.68*	0.47– 0.98	1.00	0.67–1.50
Reason for removal (ref: child mal.)				
Caregiver substance abuse	1.07	0.79– 1.44	1.18	0.90–1.53
Child behavior problem	1.44***	1.17– 1.78	1.46*	0.99–2.15
Other reason	1.36***	1.15– 1.59	1.01	0.80–1.27
Number of placement changes	1.15	0.98– 1.35	1.16	0.97–1.38
Prior foster care episode	1.23	0.99– 1.53	0.82*	0.67– 1.00
Current placement setting (ref: nonrelative foster home)				
Relative foster home	1.05	0.67– 1.62	1.04	0.69–1.56
Group home or institution	1.28	0.98–1.68	2.41***	1.92–3.03
Runaway	3.87***	2.51–5.98	2.88***	1.83–4.52
Temporary home visit	0.77	0.48–1.24	1.78	0.87–3.68
Remained in foster care at age 19	0.36***	0.28–0.46	0.58***	0.45–0.73
Number of wellbeing services (0–4)	1.03	0.99–1.07	0.97	0.93–1.02
Number of financial services (0–11)	0.98	0.82–1.17	0.92	0.78–1.09
State-level Covariates	B	(SE)	B	(SE)
CFCIP mean spending on housing supports	−0.43***	0.12	−0.99***	0.17

Predictors	Homeless		Incarceration	
	OR	95% CI	OR	95% CI
Percentage of housing burdened renters	−0.97***	0.07	0.04	0.88

Table note:

* p<.05

** p<.01 p<.001

Table 4.

Hierarchical logistic regression analysis for variables predicting substance abuse referral and child birth at age 19

Predictors	**Substance Abuse**			**Child Birth**	
	OR	**OR**	**95% CI**	**OR**	**95% CI**
Race/ethnicity (ref: White)					
African American	1.41***	0.78	0.55–1.12	1.84***	1.27–2.66
Latino/a	1.17	0.78	0.66–1.28	1.80***	1.28–2.52
Other Race	0.99	0.78	0.45–1.35	0.71	0.43–1.18
Female (ref: male)	1.08	0.78*	0.62–0.99	4.53***	3.41–6.03
Ever homeless	1.81***	1.05	0.80–1.38	1.13	0.84–1.54
Ever had substance abuse referral	1.69***	3.35***	2.71–4.14	1.18	0.91–1.54
Ever had juvenile justice involvement	1.44*	1.75***	1.38– 2.23	1.70**	1.19–2.42
Connection to adult	0.68*	0.89	0.57–1.40	1.16	0.84–1.61
Reason for removal (ref: child mal.)					
Caregiver substance abuse	1.07	1.13	0.61–2.08	0.62	0.36–1.08
Child behavior problem	1.44***	1.46**	1.14–1.87	0.86	0.56–1.33
Other reason	1.36***	1.06	0.88–1.28	0.79	0.59–1.05
Number of placement changes	1.15	1.05	0.95–1.15	1.17*	1.01–1.36
Prior foster care episode	1.23	1.17	0.98–1.40	1.00	0.80–1.24
Current placement setting (ref: nonrelative foster home)					
Relative foster home	1.05	0.80	0.50–1.30	1.36	0.74–2.52
Group home or institution	1.28	1.50***	1.22–1.85	1.09	0.78–1.53
Runaway	3.87***	1.77***	1.26–2.50	1.86***	1.33–2.61
Temporary home visit	0.77	1.88	0.97–3.66	2.42	0.83– 7.07
Remained in foster care at age 19	0.36***	1.49**	1.05–2.11	0.80	0.56–1.14
Number of wellbeing services (0–4)	1.03	1.00	0.94–1.06	1.03	0.99–1.07
Number of financial services (0–11)	0.98	1.12	0.97–1.29	1.03	0.91–1.17
State-level Covariates	B	B	(SE)	B	(SE)
CFCIP mean spending on housing supports	−0.43***	0.29	0.56	0.10	0.15

Predictors	Substance Abuse			Child Birth		
	OR	OR	95% CI	OR	95% CI	
Percentage of housing burdened renters	−0.97***	1.00***	0.09	1.01***	0.02	

Table note:

* p<.05

** p<.01 p<.001